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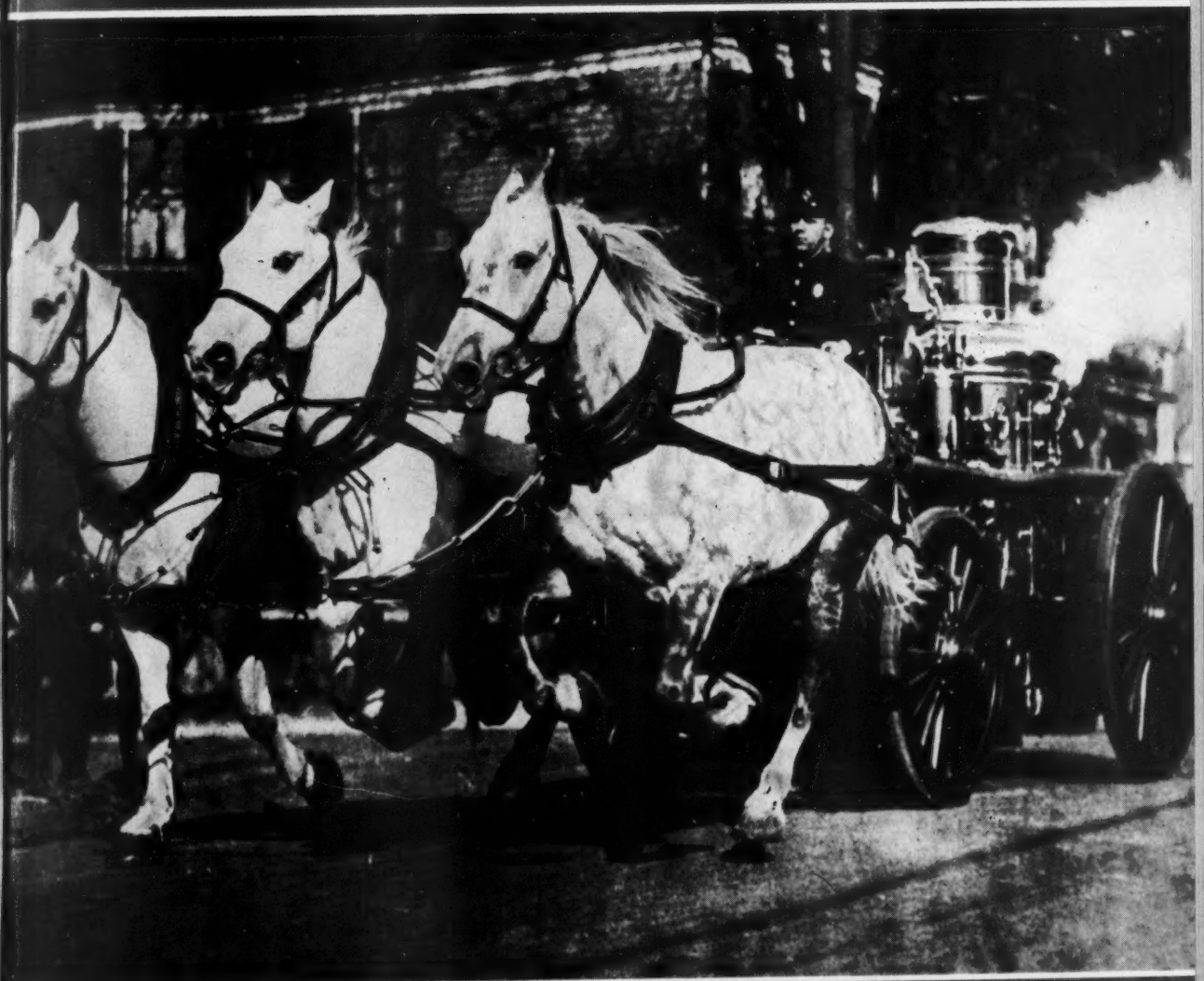
FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

JUNE, 1957



Boston Fire Department's three-horse hitch steamer answers local run—See Page 586

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Fire Department Ambulances Services Are Rolling to New Records

Respiratory Protection for the Fireman

Illinois Fire Fighters "Train by Doing"

Swimming is great . . . but

are you ready

with the most effective artificial respiration known to science?

EMERSON

EMERSON
Resuscitators

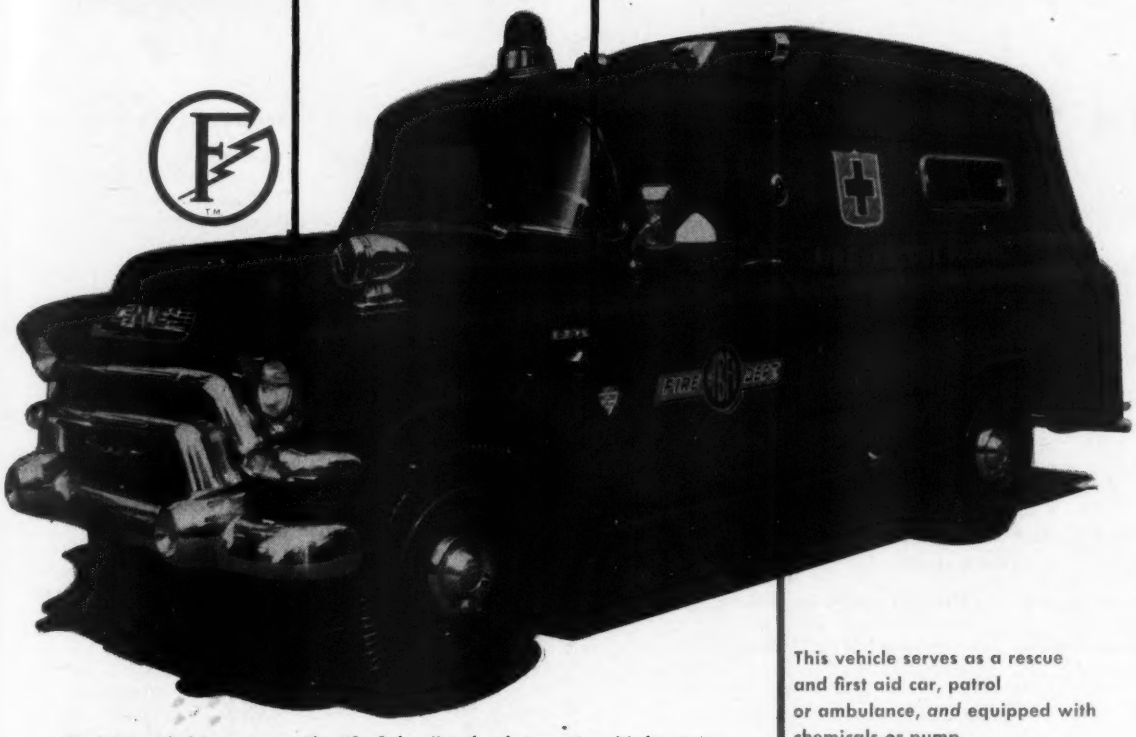
"Simplest and Safest"

J. H. EMERSON CO.

11 COTTAGE PARK AVE., CAMBRIDGE 40, MASS.

RESCUE—

the *last* word, and the *first* in fire fighting!



This vehicle serves as a rescue and first aid car, patrol or ambulance, *and* equipped with chemicals or pump, as a first arrival or supplementary fire fighter. Ample space for optional equipment makes it "custom" for your needs. Manufactured by the Christopher Company of New York, the illustrated Fire-Rescue Patrol was delivered to the West Bend, Wisconsin Fire Dept. Of course it was equipped with a FEDERAL Siren on the fender and a FEDERAL Beacon Ray light on the roof.

Don't be misled by a name! The "firefighter" is that by vocation. It's his major skill, but a secondary duty.

The fire department and the fireman put "Rescue" first. Their motto and their action is to save lives first, then to save property.

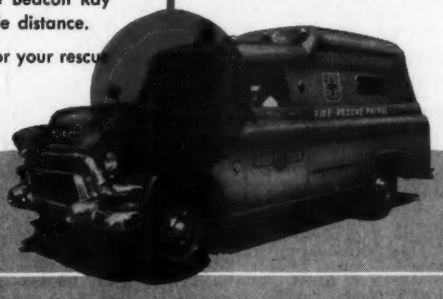
Rescue is becoming a more important duty for firemen, not only at fires but at *any* disaster. New training and new equipment are rapidly becoming more wide spread. Rescue squads are being established, some independently, but many in conjunction with fire departments.

The emphasis is on rescue and life-saving. Many special Rescue-Patrol-Firefighter-Cruiser combinations are being added to departments to bring better equipment and manpower more quickly.

It is not by chance that such trucks include, or that departments SPECIFY FEDERAL Sirens and Beacon Ray lights on these vehicles. Good, effective, dependable signals protect lives enroute to the scene of disaster, protect the rescue squad, the motorist and the pedestrian. *At the scene* the Beacon Ray light serves as a road block and keeps unwary motorists at a safe distance.

Specify FEDERAL Coaster Sirens and FEDERAL Beacon Ray lights for your rescue truck, for your fire apparatus.

Write for catalog No. 300 today.



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8702 S. State St., Chicago 19, Ill.

FIRE ENGINEERING

VOL. 110 June, 1957 NO. 6

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With F. E.'s Correspondents

Readers of FIRE ENGINEERING have noticed numerous big and "bit" stories signed "Cliff Dektar." Here he is in the flesh—and in action.

Cliff is a prolific and "pro" writer, particularly on Coast fire topics. He's a grad of USC School of Journalism; former sports editor of the *Daily Trojan* at Southern Cal. and campus correspondent for the L. A. *Mirror*, for which he later became a full-fledged press reporter, covering most major fires in the area.

In reporting spot news assignments, Cliff got to know the late L. A. County Fire Chief Cecil R. Gehr and other notables, from whom he gained inspiration to write magazine and news stories on fire department activities.

In July 1956, Cliff left newspaper work for a post in the press information department of ABC-TV Network in Hollywood. But this in no wise deterred him from following the 'gines—especially in L. A. County and contiguous areas where his nose for news unearths many a timely yarn for this Journal.

Oh yes—Cliff did a 2½-year stint in the Army. He's married to Joan Ahern Dektar, fashion writer; they have a son—eight months old June 3. Anybody want a bet on what he'll become?

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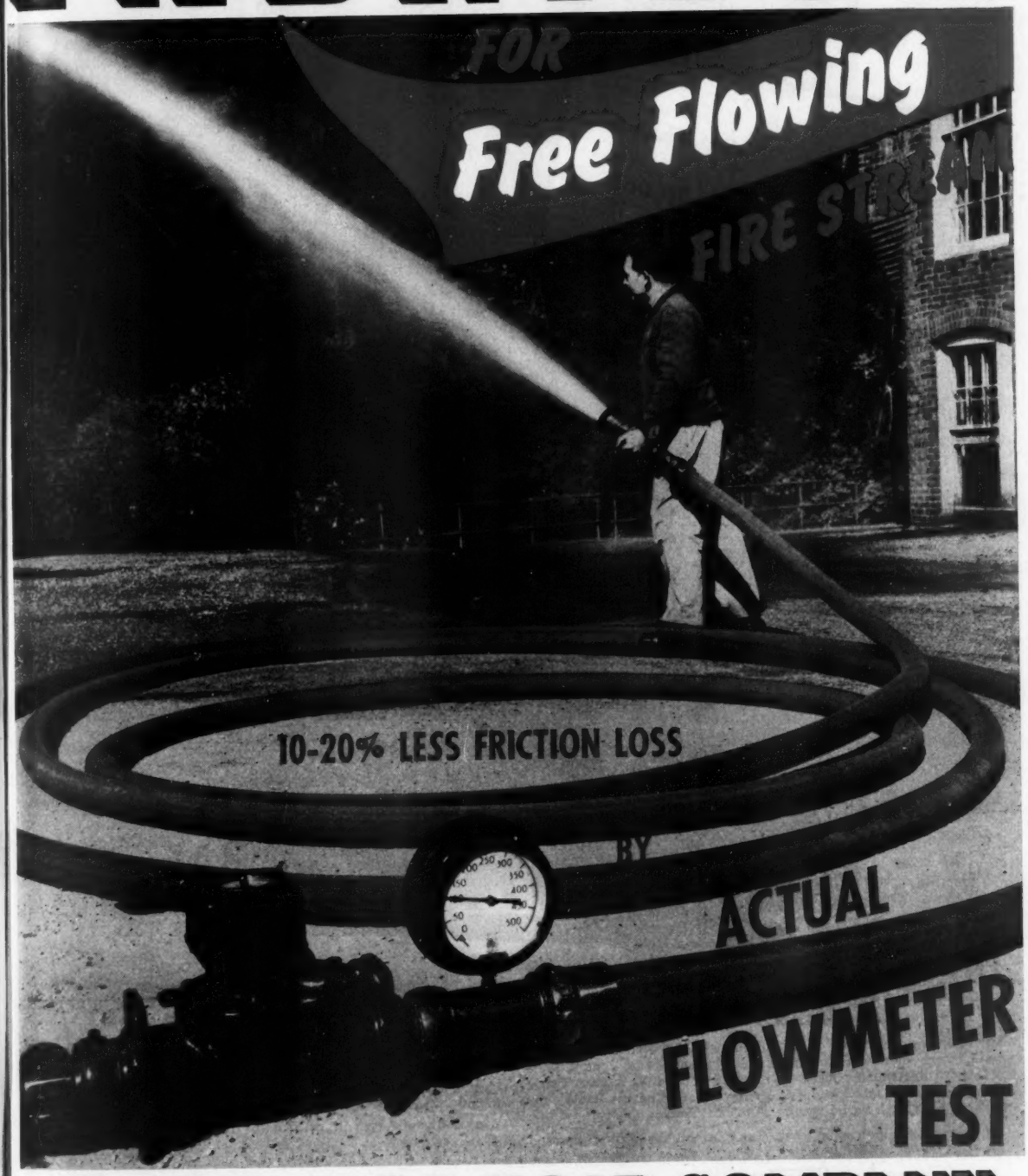

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THE ONLY EXCLUSIVE MANUFACTURER OF FIRE HOSE IN AMERICA

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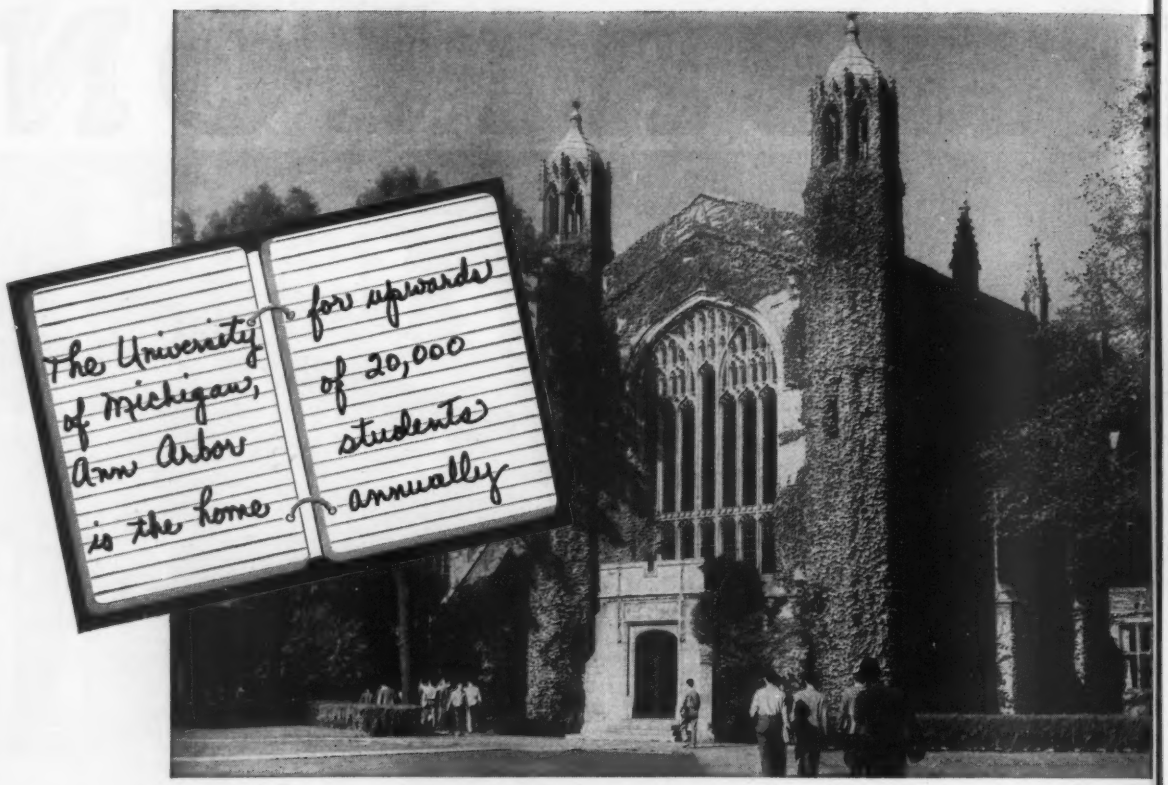
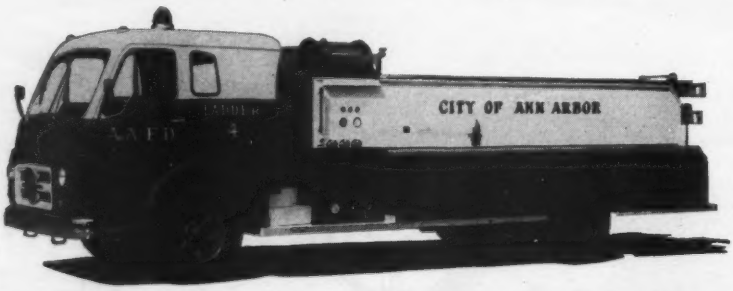


a progressive city protects a great university

with JOHN-BEAN *HIGH-PRESSURE FOG FIRE-FIGHTERS*



Today one of the five largest universities in the nation, Michigan, is distinguished for the excellence of both its faculty and its physical facilities. The 700 acre campus with approximately 90 major buildings make Ann Arbor a "university town".

Situated on the perimeter of one of the world's great industrial centers, more than 50 firms comprise the industrial family in Ann Arbor. Recognizing the ever increasing need for better fire-fighting protection, this progressive city has selected the finest — another John BEAN High-Pressure Fog Fire Truck.

When every second counts most, the John BEAN High-Pressure Fog System makes fast acting, easily controlled fog streams instantly available for triple fire-killing action.

1. It cools. 2. It isolates. 3. It smothers.

The John Bean Engineered Ladder Truck shown above is the third John Bean Fire Truck in use protecting this city.

It is designed as a multiple purpose, hard hitting combination unit featuring — high-pressure fog, 186' of ladders, rescue equipment, two-way radio and salvage appliances.

You, too, can give your community the best fire-fighting protection. Get complete details. Write for catalog today.

JOHN fmc® BEAN

ORIGINAL HIGH-PRESSURE FOG FIRE-FIGHTER

John Bean Division, Lansing 4, Michigan
John Bean Division, San Jose, California

Can be mounted on most standard truck chassis.

A PRODUCT OF FOOD MACHINERY AND CHEMICAL CORPORATION

B.F.Goodrich

500 extra feet of B.F.Goodrich hose racked on this truck

WHEN stiff, bulky fire hose was used by the Northfield (Ill.) Volunteer Fire Dept., the overflow was piled on top of the truck, making it hard to unload.

Then they switched to B.F.Goodrich Fire King because it is light weight, flexible, and takes up less space. Now they're racking 500 extra feet of hose, which saves vital minutes when laying lines at a fire.

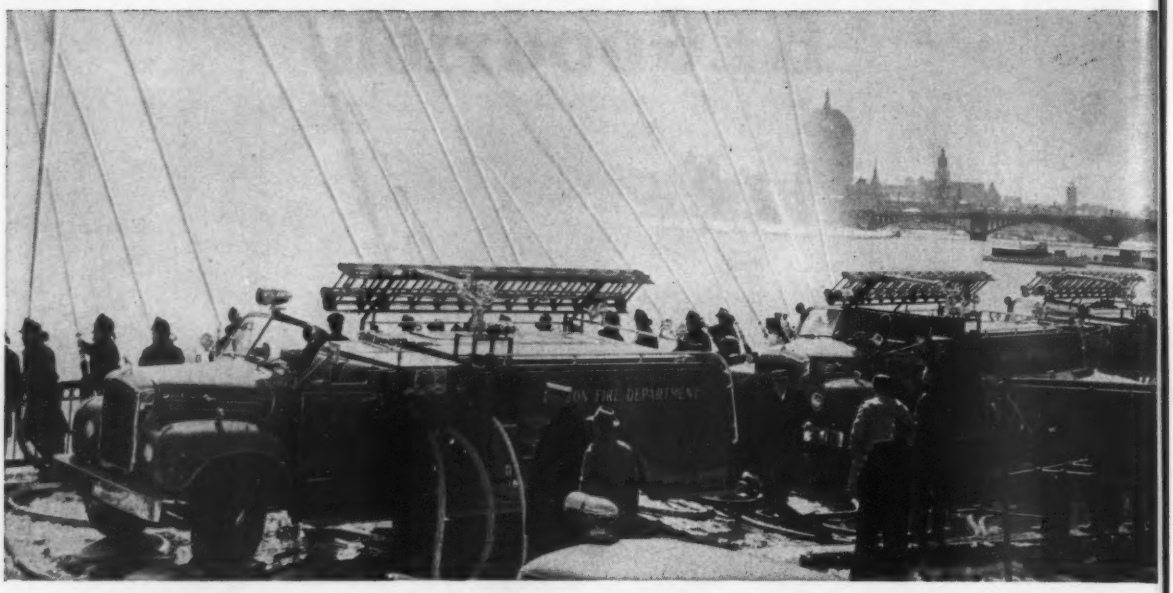
Weight used to mean strength. But since B.F.Goodrich developed Fire King, there's no advantage in using heavy, cumbersome hose. Use of a chemically-produced fiber as "filler cords" makes this hose 22% lighter, much more flexible than ordinary hose. As a result, it gets into action faster, is easier to lift and carry, and cuts loading time because it coils easily, racks naturally on the truck bed.

And now, for only pennies more per foot, you can add a new factor in safety and long life. The new, exclusive B.F.Goodrich Superseal treatment makes fire hose 10 times more resistant to mildew and rotting. Unlike ordinary treatments, which just coat the hose surface, Superseal penetrates every cord in the inner and outer jacket, prepares the hose for all sorts of weather.

When you want hose that will last longer than any fire hose ever sold, get B.F.Goodrich hose with Superseal protection. Your B.F.Goodrich fire hose distributor can tell you more about it, or write *B.F.Goodrich Industrial Products Co., Dept. M-963, Akron 18, Ohio.*

B.F.Goodrich

INDUSTRIAL PRODUCTS



Back Bay welcomes new MACK 1250's

Shooting high into the Boston sky, the curtain of water shown above signifies the Boston Fire Department's acceptance of three specially designed 1250 Mack triple combination pumpers.

Scheduled for service in Charlestown, East Boston and South Boston, these new pumpers will provide first-line protection for extremely challenging territory: a highly industrialized area that includes numerous reminders of Boston's historic past in the many narrow streets, steep hills and old—even ancient—buildings.

Based on long experience with Mack equipment, Boston authorities have no doubts whatsoever about the ability of the new pumpers to cope with everything that Boston terrain and New England weather can throw at them.

That's because no piece of Mack fire apparatus leaves the plant until Mack is certain that it is the finest equipment of its kind that over 50 years of experience and skill can build. Mack maintains this unmatched quality by building more of its vital components than any other maker. Contact your Mack representative today for *all* the facts on Mack's complete line of fire apparatus. Mack Fire Apparatus, Plainfield, New Jersey. In Canada: Mack Trucks of Canada, Ltd.

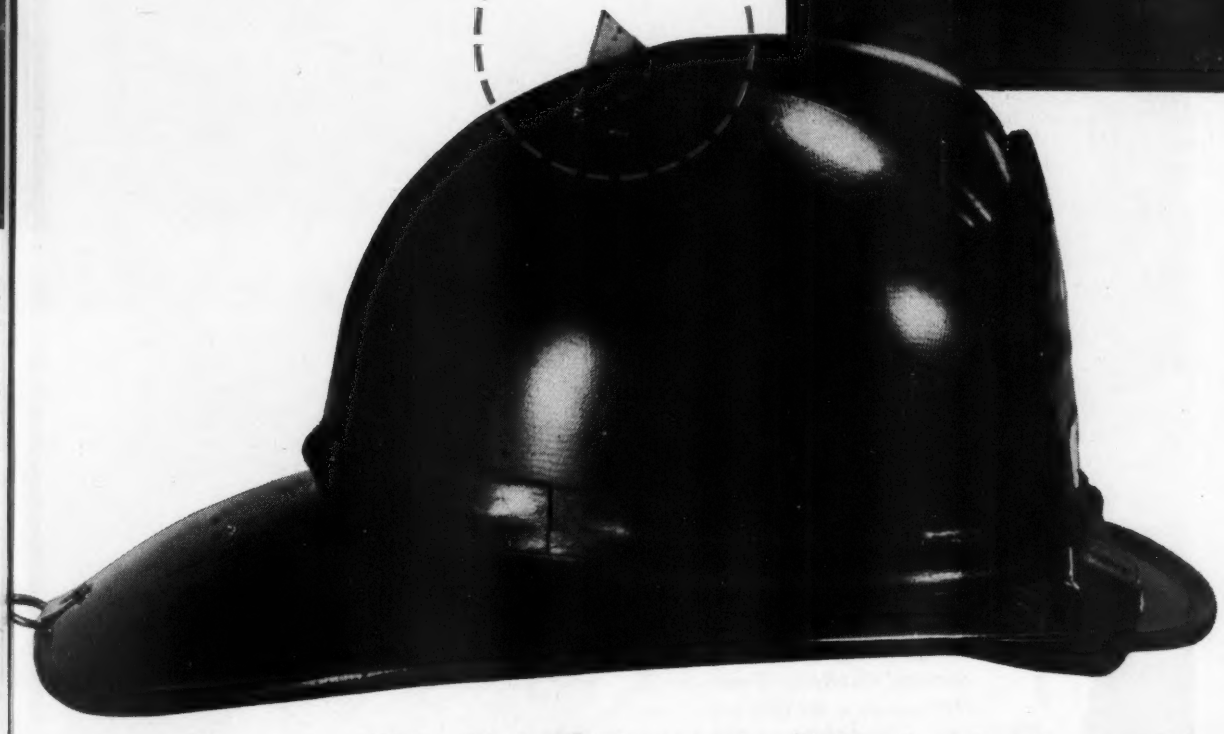
MACK
first name for
FIRE APPARATUS

Here's the last word in fire apparatus, designed and built by Mack to the specifications of the Boston Fire Department. The three new combination pumpers are powered by heavy-duty Mack engines, developing 262 hp at 2600 rpm. Extra-wide hose compartments hold 1000 feet of 1½" hose, 1600 feet of 2½" hose and 800 feet of 3" hose. There are lighted equipment compartments for tools and appliances and a 400-gallon flat-bed type booster tank.

5184

COMPLETE LINE OF PUMPERS — 500 TO 1250 GPM . . . SQUAD AND HOSE WAGONS . . . AERIALS — 65' TO 100' . . . COMBINATION LADDER TRUCKS

Pittsburgh fireman, Stanley Rosporski, points to the sliver of glass which his M-S-A Streamlined Fireman's Helmet stopped short of its mark.



This M-S-A® Fireman's Helmet proved a rugged lifesaver against a falling plate glass window

Need proof of dependable head protection for fire-fighters? Read what happened to Fireman Stanley Rosporski of Pittsburgh, Pennsylvania.

While fighting a $25,000 blaze in a private downtown club, a plate glass window in the burning structure fell three floors—breaking across the head and shoulders of Fireman Rosporski. Bearing the brunt of this shattering force, was a durable M-S-A Streamlined Fireman's Helmet.

That's why this fireman suffered no head injury. That jagged hunk of glass in his helmet —never touched him. It spent itself instead, in the highly resistant plastic crown of the headgear. Sturdy web straps in the M-S-A Helmet kept the glass fragment from actual contact with his head.

True stories like this one, point again and again, to the dependable protection of this one-piece laminated bakelite helmet. Molded under high pressure, this tough unit has crash and dielectric strength, plus extremely high resistance to fracture, heat warping and water deterioration.

Write us for more information on the design features of this modern fire-fighting helmet.

MSA
SAFETY EQUIPMENT HEADQUARTERS

Call the MSA man on your every safety problem
. . . his job is to help you

MINE SAFETY APPLIANCES COMPANY
201 North Braddock Avenue, Pittsburgh 8, Pennsylvania

MINE SAFETY APPLIANCES CO. OF CANADA, LIMITED
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Representatives in Principal Cities in Mexico, Central and South America
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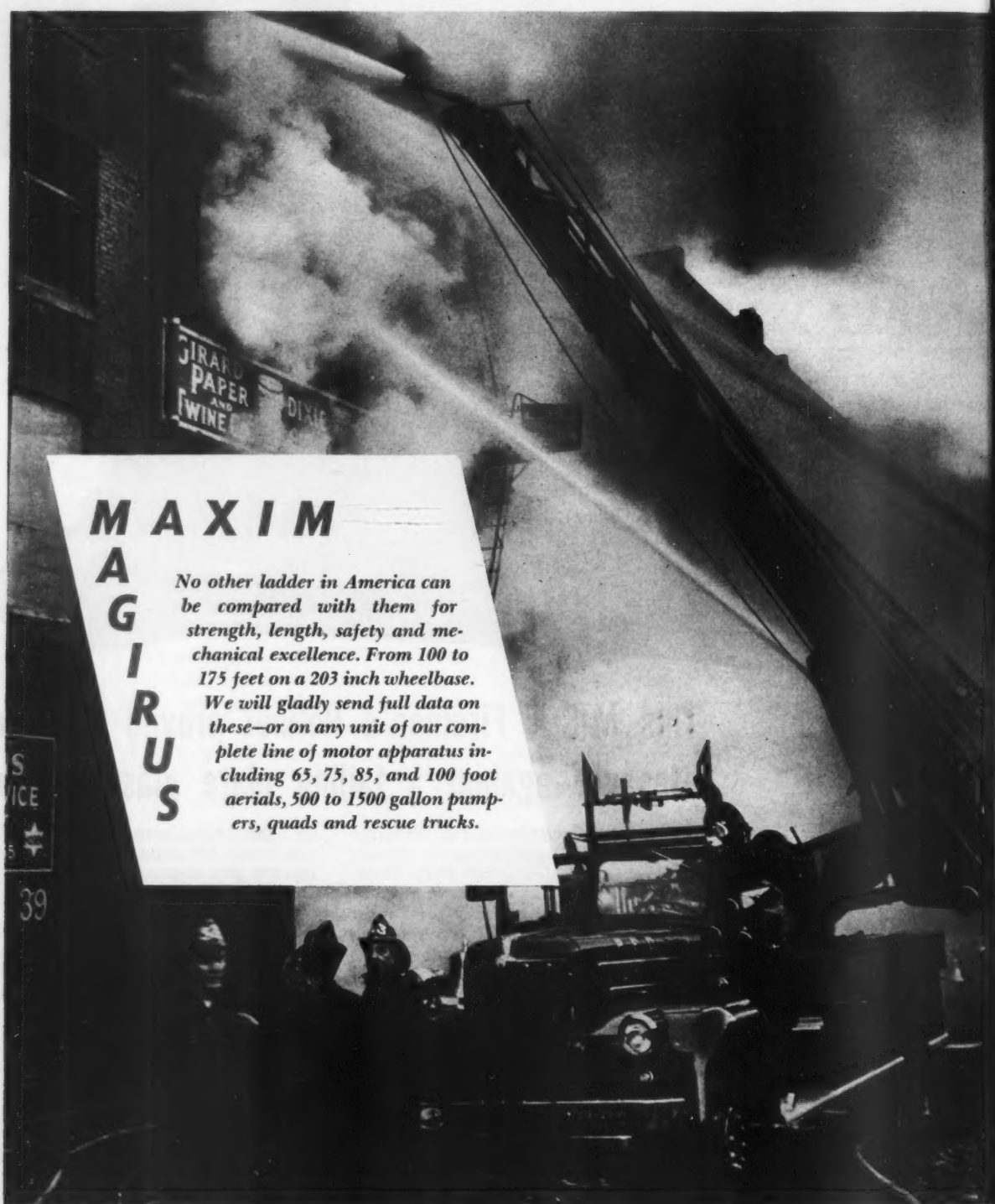
A "FOUR-BAGGER"

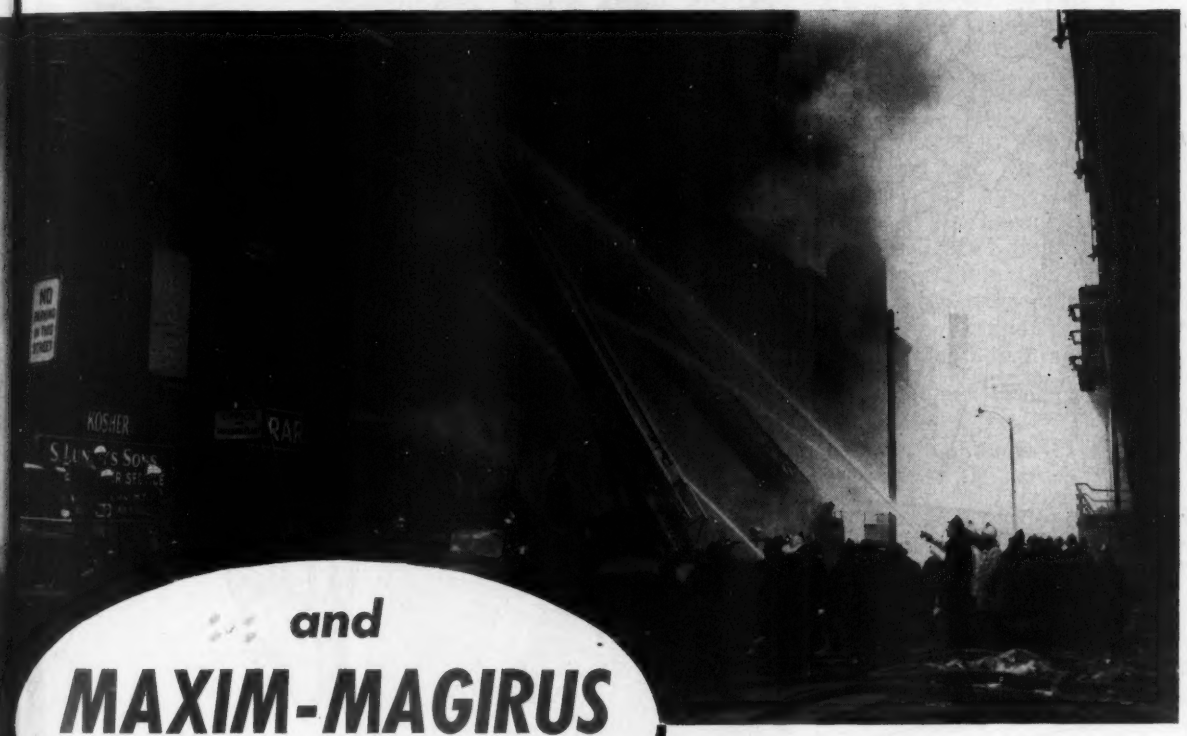


MAXIM

MAGIRUS

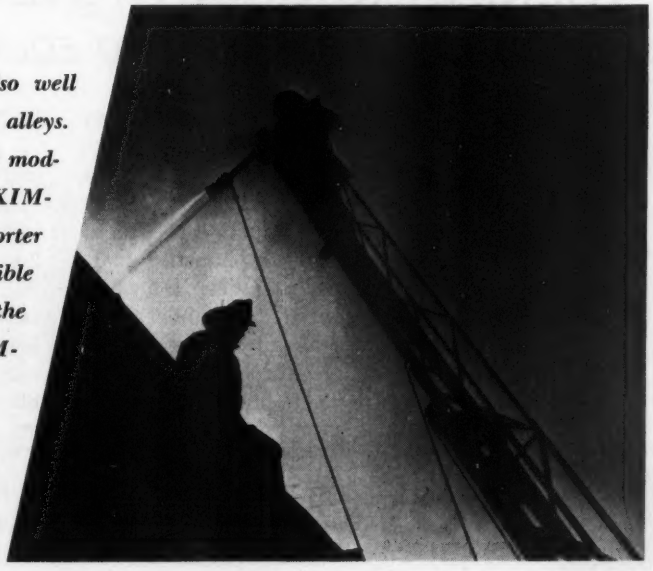
No other ladder in America can be compared with them for strength, length, safety and mechanical excellence. From 100 to 175 feet on a 203 inch wheelbase. We will gladly send full data on these—or on any unit of our complete line of motor apparatus including 65, 75, 85, and 100 foot aerials, 500 to 1500 gallon pumpers, quads and rescue trucks.

IN PHILADELPHIA



and MAXIM-MAGIRUS goes into action

Photos courtesy of Philadelphia Fire Dept.



Philadelphia—famous historically—is also well known for its many narrow streets and alleys. But Philadelphia's fire department, in its modernization program, has selected MAXIM-MAGIRUS, the longer aerial with the shorter wheelbase to fight fires in otherwise inaccessible spots. There are spots in every city where the usual aerial cannot get to. The MAXIM-MAGIRUS is the ideal answer.

MAXIM MOTOR COMPANY
America's Finest Fire Apparatus
Middleboro, Massachusetts

"THERE'S NO SUBSTITUTE FOR THE BEST MEN

...OR THE FINEST RADIO EQUIPMENT

Maximum fire protection demands maximum effectiveness. Your firemen—dependable, able, and ready at a moment's notice—must have equipment of the same qualifications. Every one of the parts that go into your 2-way radio must be the finest available . . . must be guaranteed for long life . . . must keep the radio working in all emergencies. No wonder 3 out of 4 of the nation's radio-equipped fire departments depend upon Motorola 2-way radio and HANDIE-TALKIE® radiophone.

In New York, Miami, Los Angeles, Chicago . . . and practically every other leading city and countless large and small communities . . . rugged Motorola radio is proving that it is engineered to give the most dependable 2-way communications.

In your city or town, Motorola is ready to help you multiply your department's efficiency and protection. Learn how these benefits can be applied to your own operation.

® Handie-Talkie is a Registered Trademark of Motorola, Inc.

MOTOROLA 2-WAY FIRE RADIO

MOTOROLA COMMUNICATIONS & ELECTRONICS, INC. • A Subsidiary of Motorola, Inc. • 4501 Augusta Blvd. • Chicago 51, Illinois

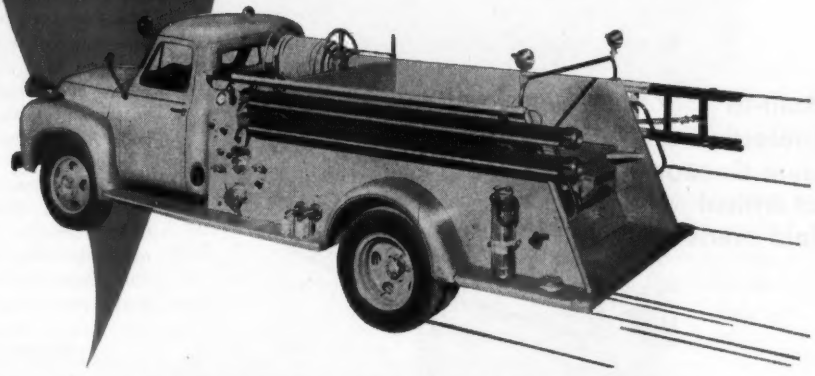
In case of fire . . . call BOARDMAN!

If you are one of the many chiefs . . . from coast to coast . . . who have had the experience of purchasing and working with a BOARDMAN-built pumper, you've experienced the combination of fire truck performance with the economy of a commercial chassis. There are many, many advantages.

BOARDMAN custom built fire fighters are really dependable. Each is equipped with the famous Waterous pump . . . the standard of the industry.

And a commercial chassis assures you of a quick, local source of truck parts, so necessary for emergency vehicles.

Let us send you the complete BOARDMAN story. Just drop us a line TODAY!



BOARDMAN

THE BOARDMAN CO.

OKLAHOMA CITY, OKLAHOMA

Dealerships available in some choice localities. Write TODAY!

NEW Super Fyr-Strype

Built-in protection of pure DACRON* at critical fold areas . . .

WRITE TODAY FOR COMPLETE INFORMATION

eliminates 90% of hose wear!

Super Fyr-Strype, Fyr-Fyter's newest first line municipal fire hose, has built-in protection of pure *Dacron** strips over the total outer jacket fold areas! These areas are the highly vulnerable points of standard cotton jacket hose where 90% of wear occurs. Super Fyr-Strype's tough and rugged reinforcing strips are practically immune to wear . . . they provide a new high in resistance to the ravages of abrasion! Added advantages include *extra strengthening* at key points permitting high test pressure—an extra safety margin; *quicker drying* at folds and creases—a positive protection against mildew at these points because the *Dacron* fold strips are non-absorbent; and *increased flexibility* for faster unloading and easier racking.

In addition to fold strips, both outer and inner jackets are also reinforced with *Dacron* filler cord. Here again Super Fyr-Strype has built-in extra endurance and resiliency for top performance, plus high resistance to mildew, chemicals and water absorption. It is 15% lighter and 50% stronger than conventional hose. This double jacket, 600 lb. test hose is available in 50 ft. lengths, either 1½" or 2½" diameter.

***DuPont's trade-mark for its polyester fiber.**

Fyr-Fyter

DIVISION OF THE FYR-FYTER COMPANY
221 CRANE STREET, DAYTON 1, OHIO
Branches: *New York, Boston, Philadelphia, Chicago, Atlanta, Dallas, San Francisco, Los Angeles, Portland, Seattle*
REPRESENTATIVES IN PRINCIPAL CITIES

Chairman of the Board of Fire Commissioners Kenelmn H. Eden; Commissioner Clarence G. Hamel, Treasurer; Commissioner Cornelius D. Enzel, Secretary; Fire Chief Donald Gray, and Superintendent of the Fire District Anthony Paradise are shown with recently delivered 1957 Ward LaFrance pumper. Pumper is Model 185-T and includes new Waterous Electro-Matic CM-750 GPM pump, 270 Hp engine, special-type full-width body, air brakes and alternator system.

For Manhasset, L. I.

More WARD LaFRANCES . . .

Two more 1957 Ward LaFrances—plus another model still on order—will give Manhasset, L. I., 14 pieces of Ward LaFrance Equipment, the oldest of which has been in service since 1934. Manhasset's Fire Department, aided by Ward LaFrance apparatus, has established an outstanding record for fire fighting. The District has 250 Volunteer Firemen, comprises 5 Companies, each with its own Fire Station, and has its own well-equipped Maintenance Shop with a full-time crew of 8, plus a Radio Dispatchers Station featuring 24-hour service. The district covers a 16 square mile area, has a population of 35,000 people and includes residential and industrial areas, and defense plants.

A growing number of towns and cities, like Manhasset, are now experiencing the protection and service afforded by 1957 Ward LaFrance models. These new Pumpers represent the finest in modern fire-fighting equipment . . . offer you specially designed cabs and chassis with unusual safety features.

Make a date to talk with your Ward LaFrance representative soon. Let him show you how these 1957 models can improve your community's fire-fighting service. Or, if you wish, write direct for full details.

WARD LaFRANCE
TRUCK CORPORATION

GENERAL OFFICE & FACTORY: Grand Central Ave., Elmira, N.Y. Tel. 3-5631 DIRECT FACTORY BRANCH 139th St., & Bruckner Blvd., New York 54, N.Y. Tel CYpress 2-3300 EXPORT: Ward LaFrance International, Inc., Elmira, N.Y., U.S.A. Cable Address: "Wardtruck"

FIRE APPARATUS MANUFACTURERS FOR OVER 39 YEARS

Now! 3 Alco-Lite Ladders for short wheelbase Pumpers... Old or New

Shown above is an Alco-Lite Pumper Roof Ladder and 2 Section Extension Ladder nesting in brackets designed for wood ladders. The nested thickness of the two is 6⅞". This pair not only makes an ideal replacement on old Pumpers but is very desirable equipment on new Pumpers.

3 Section Pumper Extension Ladder

The newest addition to the Alco-Lite Pumper series is a 3 Section Pumper Extension Ladder which is made in 30' and 35' models. Only 7" thick, the 3 PEL will nest by itself in brackets found on most Pumpers. On new Pumpers, the 3 PEL can be specified to nest with an Alco-Lite Pumper Roof Ladder. The 3 Section Pumper Extension Ladder has a rope and cable arrangement which allows the ladder sections to extend simultaneously. It is also equipped with spring loaded locks which operate automatically at any desired point.

Always specify Alco-Lite Aluminum Ladders

Alco-Lite Pumper Ladders are stronger and easier to handle because they are made of high tensile strength, industrial, aluminum alloy. Their deeply grooved, 1¼", rungs are permanently attached to the extra heavy gauge, double channel, side rails with expansion bushing construction. Alco-Lite Pumper Roof Ladders feature, in addition, extremely strong, folding steel hooks.

original manufacturer of aluminum ladders

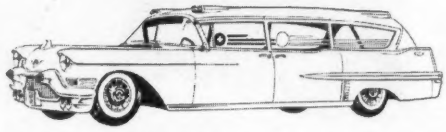
ALCO-LITE

Aluminum Ladder Company

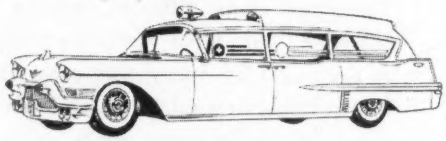
WORTHINGTON PENNSYLVANIA

Chassis by Cadillac

Ready, willing, and able!



***The rescuer that's rugged** . . . all-steel welded construction . . . one-piece die-stamped roof . . . Cadillac power plant and chassis.*



***Efficiency that's engineered** . . . low loading height for smoother patient handling . . . three headroom heights for routine trips, heavy duty, disaster work . . . full equipment, including oxygen, available.*

Sometimes you *have* to be a "rough rider," push your emergency coach to the limits of its speed and power to get your patient to medical help fast! That's when every ounce of safety in your coach counts. Superior's 1957 ambulances and rescuers are ready for you—with more built-in safety than any other coach in the industry. Plus dramatic Criterion styling which gives today's Superior the look of tomorrow! See Superior 1957—*now!* Superior Coach Corporation, Lima, Ohio.

SUPERIOR

Tomorrow's Emergency Coach . . . Today! **1957**

FIREFIGHTERS TELL US

Sustaining Member

"We Specify HANNAY® Fire Hose Reels

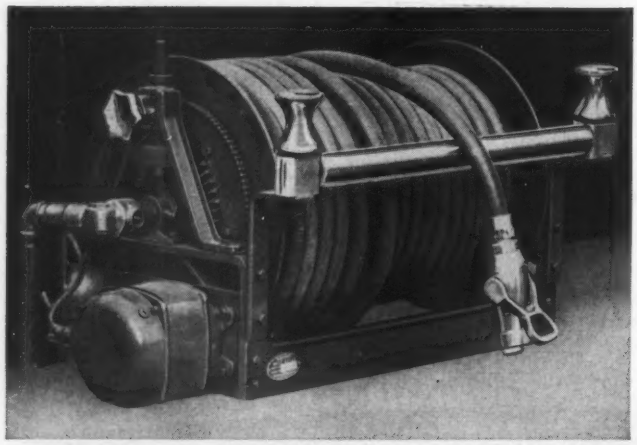
because

. . . their smooth operation assures instant operation at the scene of a fire . . ."

". . . on front line fire equipment only the best time tested and proven equipment should be used . . ."

". . . they are built to take a beating . . ."

". . . I want dependable and efficient service UNDER ALL CONDITIONS . . ."



Hannay **explosion-proof electric motor rewind reel with auxiliary vertical crank rewind and chrome roller assembly.**

There are many different reasons why *HANNAY* Fire Hose Reels are accepted as the finest by firefighters everywhere. Ruggedness, dependability, ease of operation, leak-proof swing joints, outstanding features are among the most mentioned. However, it all goes back to the fact that they are designed and built by active firemen who put into these Fire Hose Reels first-hand knowledge gained through firefighting service. Be sure you get everything you want in your Fire Hose Reels.

***For every type of firefighting equipment Specify* HANNAY®**

...Greatest Name in Hose Reels

© 1957 C.B.H.&S., INC.

HANNAY®

CLIFFORD B. HANNAY & SON, INC.

Westerlo, New York

EAGLE NATECS RADIO-CONTROLLED SYSTEM REPORTS:

THIS INTERSECTION IS CLEAR!

. . . even another emergency vehicle won't cross it now

This driver knows the intersection is clear . . . by the glowing white light. And if a second emergency vehicle should approach on the cross-street, another white light facing the second driver will flash on and off, warning that the first vehicle has priority.

Natecs is radio controlled. A transmitter on the vehicle beams the message to a receiver on the intersection signal. And it's all automatic. The driver doesn't even have to flip a switch when the vehicle changes direction. Operation on radar frequencies permits a narrow beam that won't affect any signals but those directly ahead . . . up to ¼ mile.

EAGLE

EAGLE SIGNAL CORPORATION
Municipal Division
Moline, Illinois

MAIL COUPON TODAY

EAGLE SIGNAL CORPORATION
Municipal Division, Dept. FE-657
MOLINE, ILLINOIS

Please send complete information on Eagle's new emergency traffic control system.

NAME AND TITLE

MUNICIPALITY

FULL ADDRESS

MIDWESTERN

Safety Clothing

for Men of ACTION!

The Original MIDWESTERN
STRIPED SAFETY COAT
Reduces Accidents—Saves Lives

When working under hazardous conditions in smoke, fog, dust and darkness, you deserve the safety protection found *only* in the Midwestern Striped Safety Coat. The highly visible yellow stripes are *rubberized as part of the material* . . . not glued, painted or sewed on. Tests show that Midwestern yellow stripes retain their natural color and have the same durability as the black fabric.

There are many imitations but no substitute for the superior quality, design, fabric texture and outstanding safety features of MIDWESTERN SAFETY CLOTHING FOR FIREMEN!

MIDWESTERN
COMBINATION SAFETY SUIT

The Midwestern Rubberized Coat and Bunker Pants combination make it easy for firemen to keep both warm and dry even in the most severe weather. Close fitting collar and elastic inner sleeve keep out sparks and water. Pants have double-stitched seams, reinforcing rivets at points of strain. Both garments available with detachable wool linings.

For complete information on our full line of safety clothing for firemen, see your Midwestern dealer. A letter to the factory will also bring you literature and materials for your inspection.

NONE GENUINE WITHOUT THIS TRADE MARK

MIDWESTERN SAFETY MFG. CO. Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Safety Coats**

HOWE DEFENDERS

CUSTOM-BUILT PUMPERS

Chosen by 2 more Metropolitan Areas

Custom-built HOWE DEFENDER Pumpers, serving to protect so many communities from fire losses, have been chosen by two more progressive fire departments. Twin 750-gallon pumpers (upper photo) have been delivered to Dallas, Tex., and below them is a 1,000-gallon pumper built to order for Tampa, Fla. . . . The rugged 1,000-gallon HOWE DEFENDER at Tampa is powered by a 245 horsepower Continental engine. Its canopy-type cab can accommodate six men, two riding in front and four on the full-width rear seat, reached by catwalk down the middle of truck body. This cab is also available with side entrances to rear seat on either or both sides. Full depth running board compartments back of fenders and four additional compartments house supplies and equipment . . . Dallas' 750-gallon pumpers are built on the HOWE DEFENDER chassis with Waukesha 240 h.p. engines. They have open-cab construction with full chrome plated V-type windshields. These trucks are equipped with wet water and foam proportioners and all the most modern fire-fighting devices. WATEROUS Centrifugal Pumps are standard on all HOWE equipment . . . Both Tampa and Dallas trucks have all the extras supplied by HOWE, such as *automatic pump prime indicators*, *ball type valves throughout*, and *booster tanks with completely removable tops* for cleaning and servicing . . . for the latest and best, it's HOWE!

HOWE

"dependable fire apparatus since 1872"

HOWE

MEMBER FAM
(FIRE APPARATUS MANUFACTURERS ASSOCIATION)

FIRE APPARATUS COMPANY

Dept. FE67, 1400 W. 22nd Street, Anderson, Indiana, U.S.A.

Stanley W. Smith, Regional Sales Manager, and Chief Bernard J. Padgett of Alexandria, Va., inspecting SAFA's new installation.

Congratulations to...

ALEXANDRIA, VIRGINIA

SAFA Type "A" Fire Alarm System

SAFA's *new* Type "A" Fire Alarm System allows for 90% reduction in your space requirements compared to previous similar installations. Its compactness permits *simple* "Arms-Reach" operation. Alexandria, Virginia's *new* installation serves a system with a potential 430 fire boxes and 16 fire stations.

Other recent SAFA Central Office Installations can be seen in the following cities:

Michigan City, Ind.
Sandusky, Ohio
Monroe, La.
Covington, Ky.
A.E.C. Installations
Tullahoma, Tenn.
Portsmouth, Ohio
Morristown, N. J.
Salamanca, N. Y.
Suffern, N. Y.
Ilion, N. Y.
Easton, Mass.
Stratford, Conn.
Sikorsky Aircraft
Midland Park, N. J.
Green Island, N. Y.
Ford Motor Corp.
Regina, Saskatchewan, Canada

SAFA ALARM DIVISION, INC., THE *Fyr-Fyter* COMPANY

NEWARK 1, NEW JERSEY

BRANCH OFFICES

ATLANTA • BOSTON • CHICAGO • DALLAS • LOS ANGELES • NEW YORK • SAN FRANCISCO

Yes! American Fire Apparatus has it . . .

An approved front-pump installation for any standard '57 chassis--V8 or 6 engine

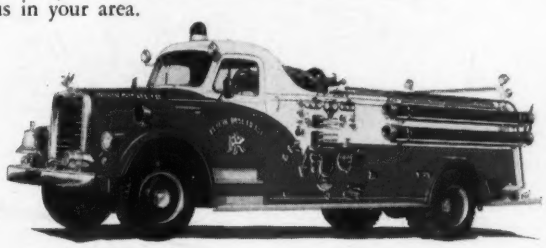
Go ahead — select any current standard model chassis, V8 or six, and American Fire can equip it with a front-mounted pump. Low mounted cooling fans pose no problems to American engineers . . . as this thoroughly tested, approved 1957 truck proves.

And when you specify a famous Barton-American Pump — either Front-mounted or Multi-Stage Midship Models — you get dependability and top performance every time.

Covered hose reels, an extra feature on this truck, are another example of engineering excellence. Covers retain heat channelled from the engine so hoses and fog guns are "ready for action" even in freezing temperatures. When the weather warms up, covers can be easily removed.

So why wait? Choose your 1957 truck chassis now. Then let American provide you with the style pump and the field-tested features you've always wanted. You'll soon command the most effective fire-fighting apparatus in your area.

Contact your nearest American Representative for full details!



A recent 1000 GPM midship pumper for Annapolis, Md.

Your choice of commercial truck chassis can be equipped with front-mounted or midship pump.

American

AMERICAN FIRE APPARATUS CO.

Main Office: Main Street Rd., Battle Creek, Mich. Plants at: BATTLE CREEK, MICH., MARSHALLTOWN, IA., STRATFORD, ONT.

WHEATON BRASS WORKS

protects its property *Automatically* gets better FIRE and BURGLARY protection and SAVES $7,500 A YEAR...

When we built our new plant, 24 hour-a-day protection was considered essential. We found the headache-free answer in ADT Automatic Protection Services, which, in our opinion, do the job more thoroughly, efficiently and economically than human patrols. We estimate our savings at $7,500 a year.

Robert F. Wheaton

Robert F. Wheaton
VICE PRESIDENT

Controlled Companies of
AMERICAN DISTRICT TELEGRAPH COMPANY
A NATIONWIDE ORGANIZATION
Executive Office
155 Sixth Avenue, New York 13, N. Y.

Wheaton Brass, manufacturers of equipment for the petroleum industry, might be hurt seriously by a fire or burglary. The management accordingly chose ADT *Automatic* Protection Services to safeguard property, profits and employees' jobs.

The building, a model for plants of its type, is guarded by a combination of ADT Central Station Sprinkler Supervisory and Waterflow Alarm, Aero Automatic Fire Alarm, Heating Supervisory and Burglar Alarm Services.

Mr. Wheaton's statement, above, convincingly attests the great value of ADT Services in giving businessmen peace of mind based on knowledge that their properties have the best protection.

May we show you what ADT can do for you?

Whether your premises are old or new, sprinklered or unsprinklered, an ADT specialist will be glad to show how combinations of automatic services can protect your property. Call our local sales office if we are listed in your phone book; or write to our Executive Office.

DUO Safety

FIRE LADDERS

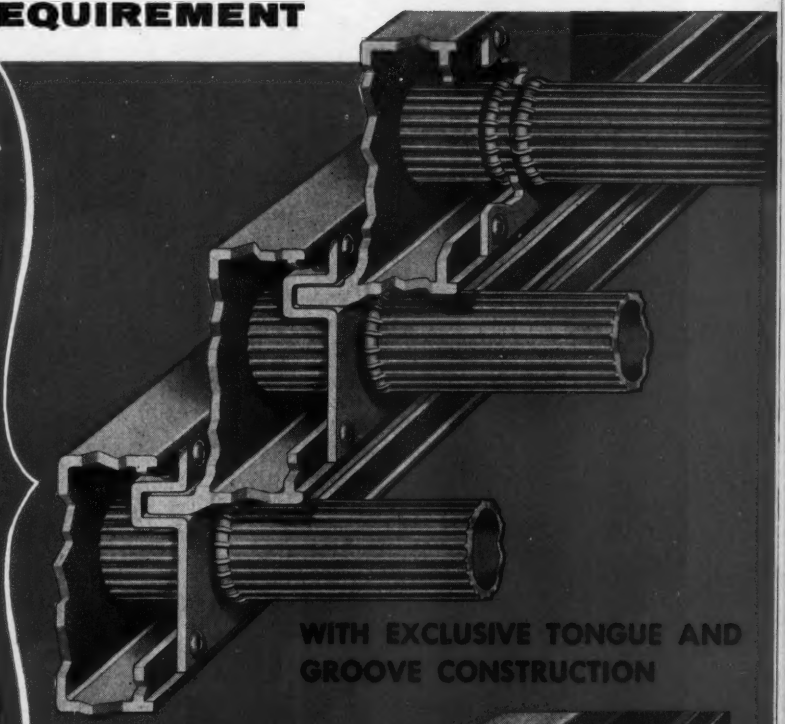
NOW...YOUR CHOICE OF AN ALUMINUM FIRE LADDER FOR EVERY USE... EVERY REQUIREMENT

SERIES 1000-A
or Pumper Use

Featuring lightweight Channel Rail Con-ction, and is the substitute, in aluminum, for d side wood ladders. This outstanding fire der has exclusive tongue and groove arrange-nt, Duo-Safety's construction development holds sections together firmly, rigidly, with hooks, guides, or obstructions of any kind! quires minimum banking height. In two and e sections, in lengths up to 30 feet. Rail di-asions—1¼" x 2¾".

SERIES 900-A
or Service Trucks nd Pumper Use

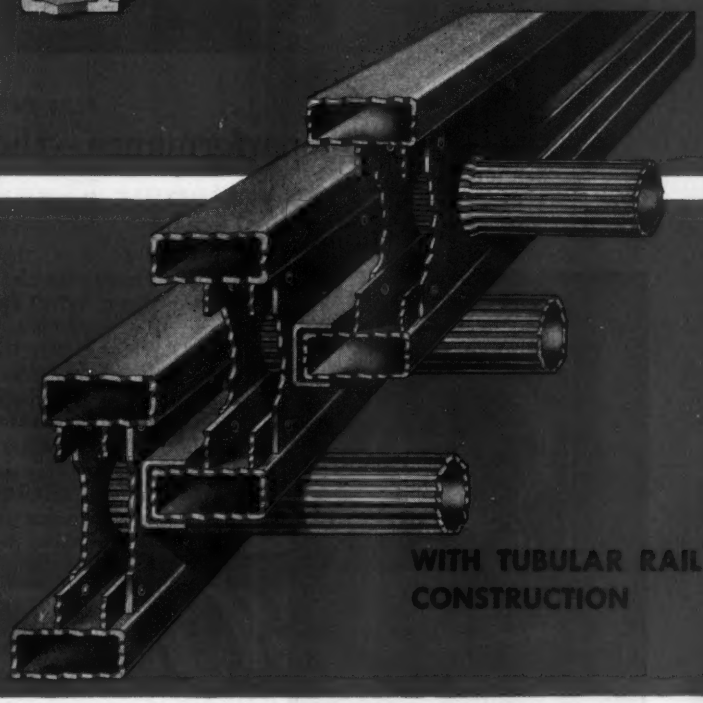
An intermediate ladder in both size and ght, the 900-A Series features slightly heavier struction than the 1000-A Series, but has the e outstanding features. In two and three sec-s...in lengths up to 40 feet. Rail dimensions ¼" x 3¼".



WITH EXCLUSIVE TONGUE AND GROOVE CONSTRUCTION

SERIES 500-A
or Service Trucks

Famous aluminum fire ladder that replaces od truss ladders and features Tubular Rail struction for greater strength and extraor-ary safety. Adopted as standard ladder equip-at by fire departments the country over. Made oof and wall ladders...and in two and three ion extensions in lengths up to 65 feet.



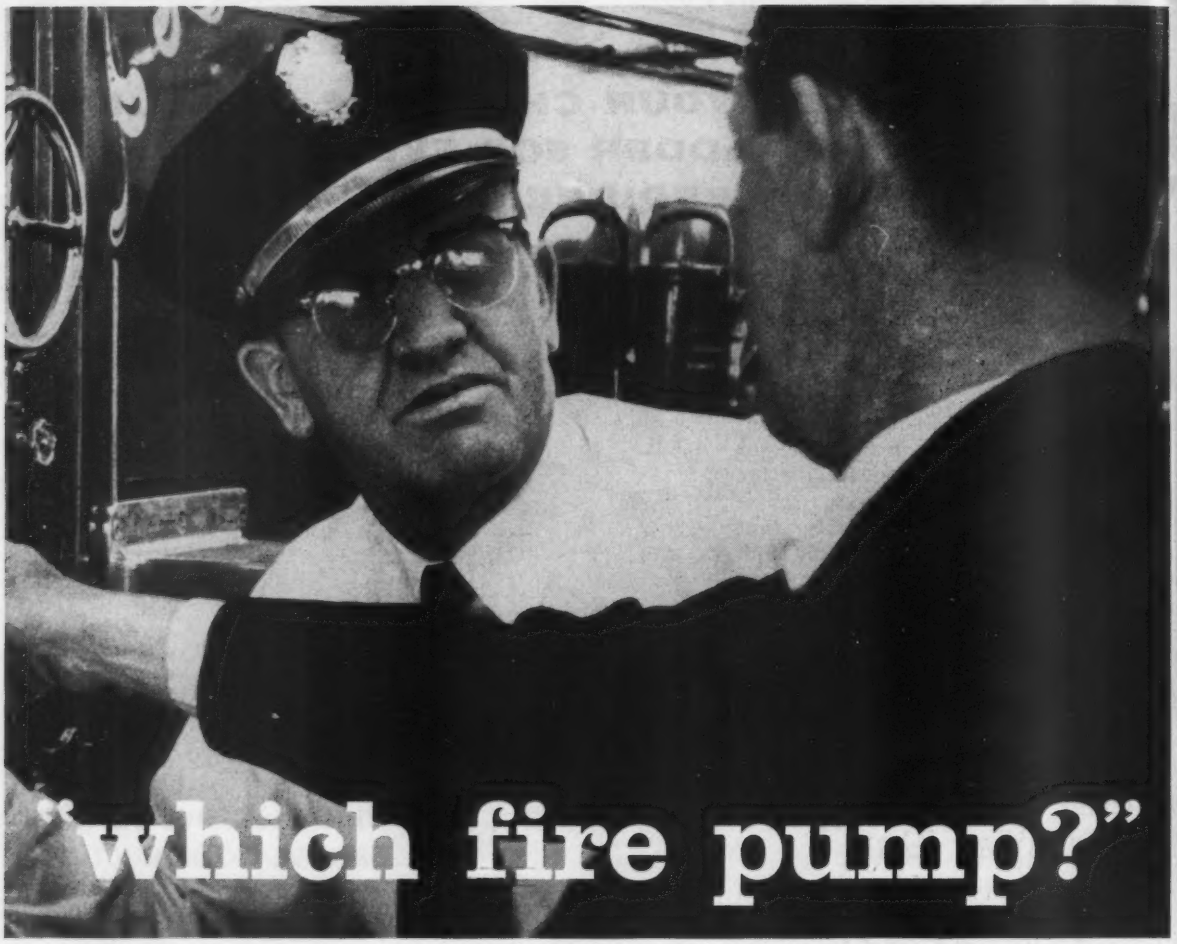
WITH TUBULAR RAIL CONSTRUCTION

DUO Safety

DUO-SAFETY LADDER CORPORATION

809 NINTH STREET
OSHKOSH, WISCONSIN

In Canada: LaFrance Fire Engine and Foamite, Ltd., Toronto



"which fire pump?"

First choice for performance—the completely power-controlled Waterous Electro-Matic*

More and more men who know fire pumps are choosing the new WATEROUS Electro-Matic. Why? Because it's modern, it's automatic, it's dependable. Push-button controls reduce error, provide greater safety. Pump is engaged at the flip of a switch; lights show whether the shift is in "road" or "pump"; the powerful primer goes into action with the push of a button; the "volume-pressure" switch controls the transfer valve and lights unmistakably tell the position of the valve. Electro-Matic gets water onto the fire quicker, with foolproof operation.

Here's the WATEROUS Electro-Matic discharge valve. Smooth operation, no sudden, dangerous pressure surges. Push the button to unlock, position, or lock. Fast, positive, dependable, it seals against both vacuum and pressure. It's another reason why more cities are choosing the Electro-Matic.

FREE BOOKLET gives complete details on *Electro-Matic* controls, design, maintenance ease and adaptability to all modern chassis. Write today for your copy.

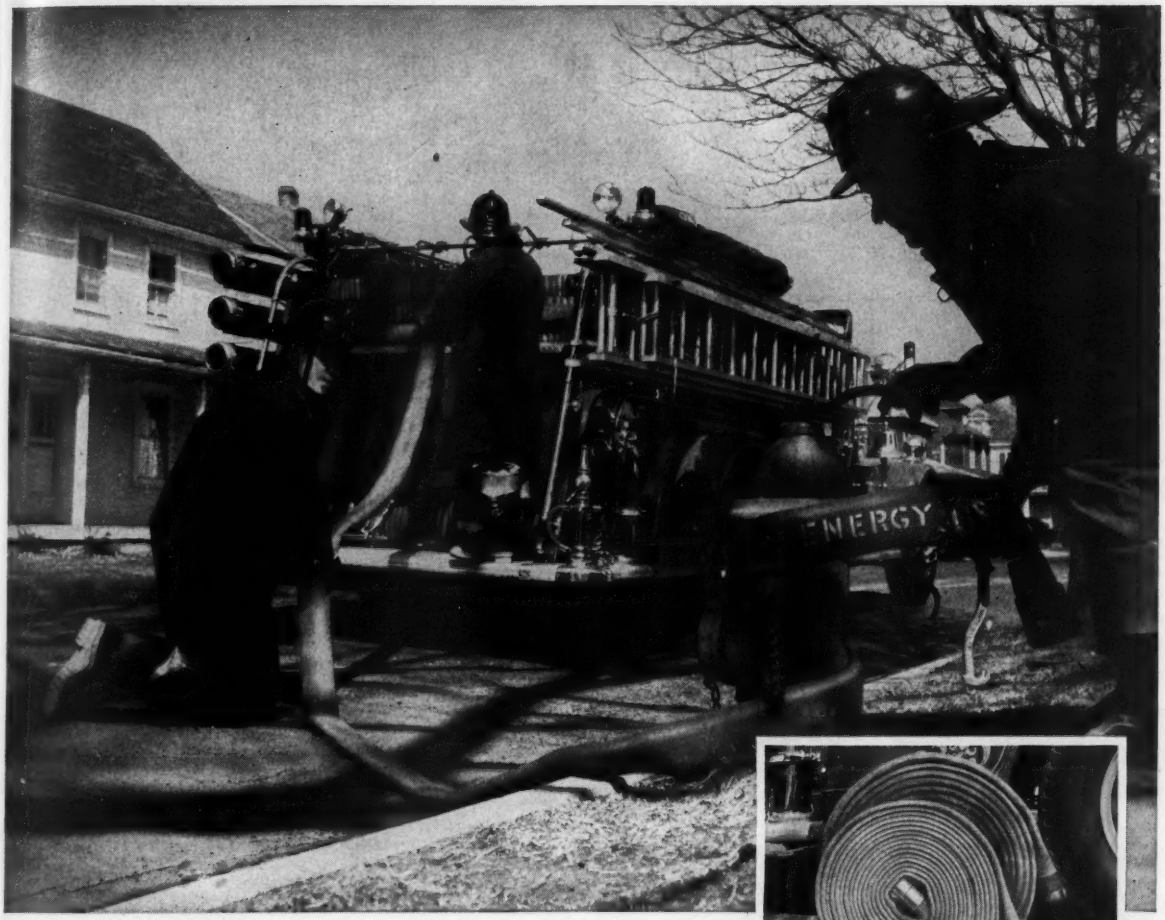
Dept. 304

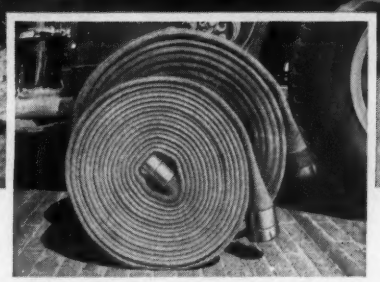
WATEROUS *Electro-Matic*

80 E. Fillmore Ave., St. Paul, Minnesota

*Registration applied for.

See the WATEROUS exhibition booth (#95) at the International Association of Fire Chiefs' convention, New Orleans, Sept. 8-12, 1957.





ENERGY HOSE, made with Dacron* filler cords, placed beside conventional hose illustrates the substantial saving in space which permits you to carry more hose on your trucks.

HAMILTON ENERGY FIRE HOSE—600 POUND TEST

Weighs 20% Less...takes ⅓ less space
Yet *Dacron** gives it 50% more strength

It's easier to carry up ladders because it weighs 20% less than conventional hose. Light weight and flexibility mean easy handling and folding. Hamilton's ENERGY Municipal Fire Hose with its smooth, slow aging, non-acid forming liner, reduces friction loss to a minimum, assures maximum pressure at the nozzle.

ENERGY HOSE is also available with SEALCOTT "W"—a special water repellent and mildew treatment for effectively protecting every cord in the inner and outer jackets against mildew and rot.

Quality control assures the dependability of ENERGY HOSE. Write for full information on our complete line of fire fighting hose.

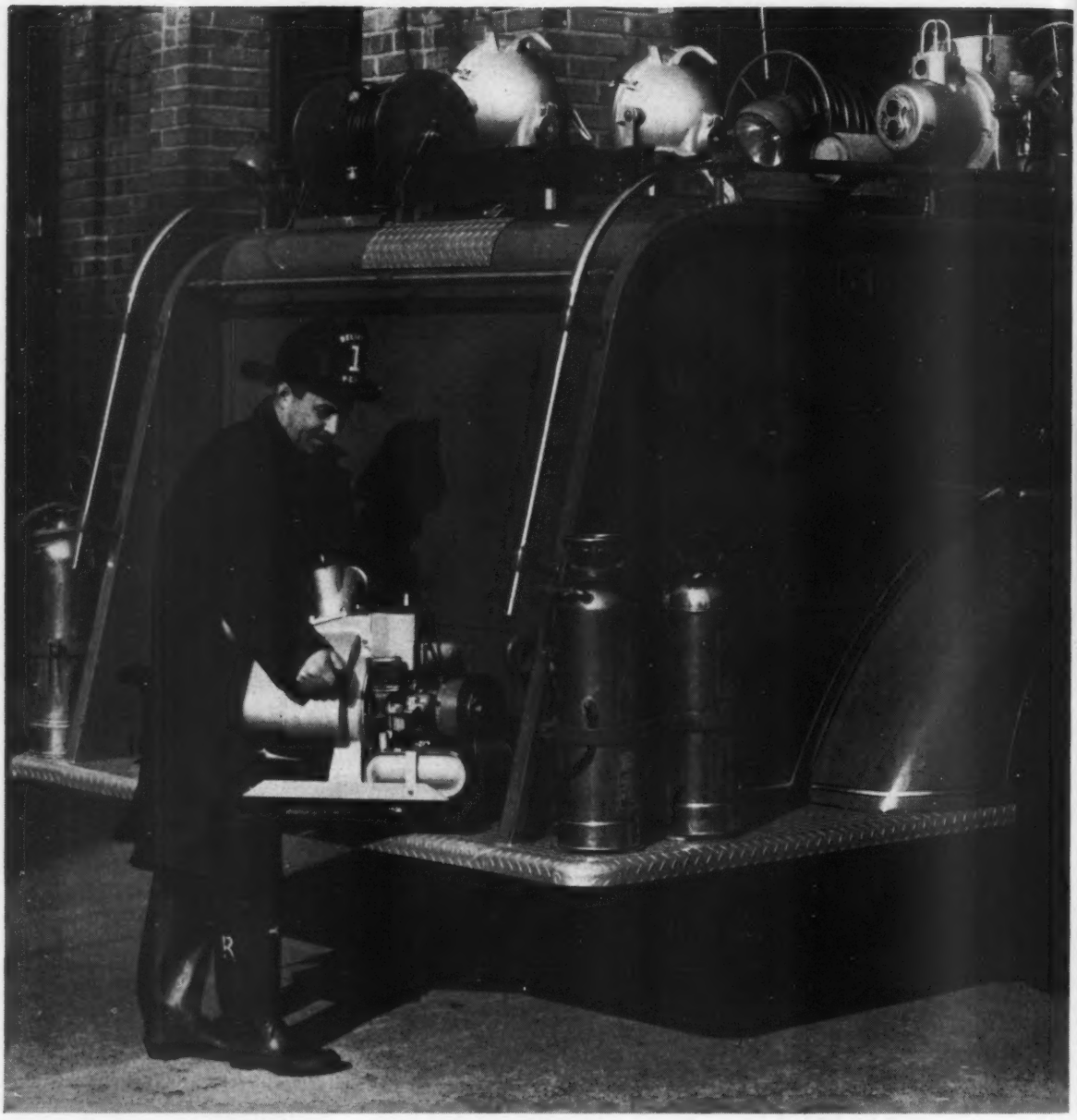
**Du Pont's trademark for its polyester fiber.*

HAMILTON RUBBER

MANUFACTURING CORPORATION • Trenton 3, N. J.

A Division of Acme-Hamilton Manufacturing Corporation

ATLANTA • CHICAGO • HOUSTON • PITTSBURGH • INDIANAPOLIS • LOS ANGELES • NEW YORK • SAN FRANCISCO



Save Money with **HOMELITE** Pumps

Here is the simplest, lowest cost way to dewater flooded areas.

One man lifts a Homelite Pump off your truck and carries it to any spot you need it. Quick starting . . . and with the fastest possible self-priming . . . that Homelite gasoline-engine-driven pump will handle water, thick with solids, at the rate of 15,000 gallons per hour. It will do your pumping fast . . . and without tying up man power and vital high-cost equipment.

Why not, right now, write for our new fire department bulletin and see how Homelite Pumps, Generators, and Chain Saws are saving money for fire departments in many other ways.

Manufacturers of Homelite
Carryable Pumps • Generators
Blowers • Chain Saws

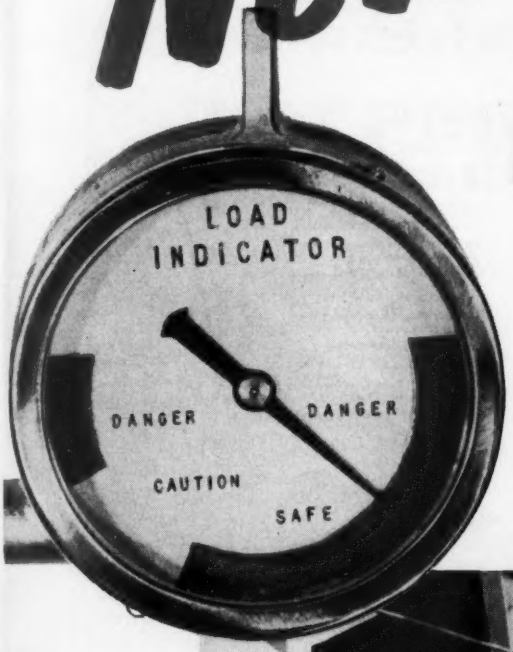
PERFORMANCE · DEPENDABILITY · SERVICE

HOMELITE

A DIVISION OF TEXTRON INC.

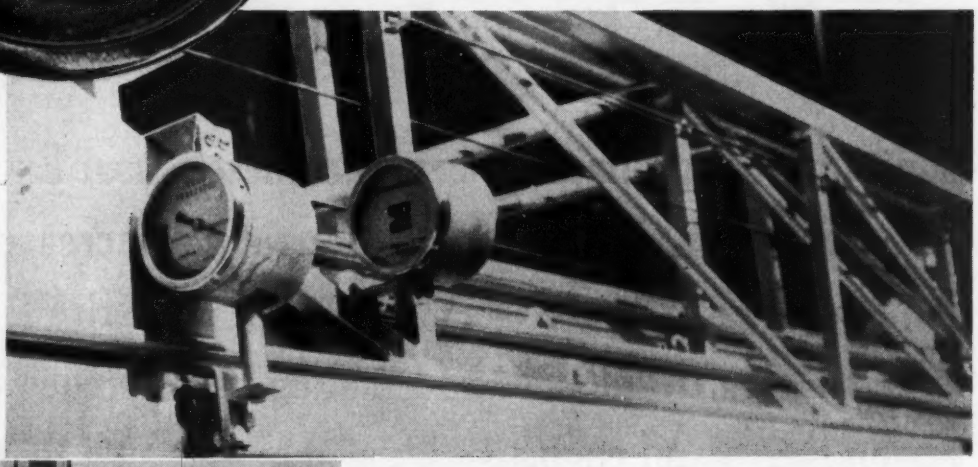
306 RIVERDALE AVENUE • PORT CHESTER, N. Y.

New SAFETY FEATURE For the Seagrave Aerial Ladder Truck



THE SEAGRAVE LADDER
LOAD INDICATOR

Now there is no guesswork on the operator's part to keep the Seagrave Aerial Ladder in safe positions. The Seagrave Load Indicator gives the condition of stress on the ladder by a simple dial: green marking for safe, yellow for caution, red for danger. It indicates the actual stress on the ladder in unsupported and supported positions.



The operator does not have to figure how many men can be supported on the ladder or the effect of ladder pipe pumping . . . a glance at the load indicator dial and he immediately knows the condition of his ladder. Seagrave ladders of all sizes are engineered with the same safety factor incorporated in them. The Load Indicator can be installed at nominal cost on new jobs or on ladders now in use. You owe it to your department to get complete information on this exclusive, new Seagrave development.

MAIL THIS COUPON TODAY

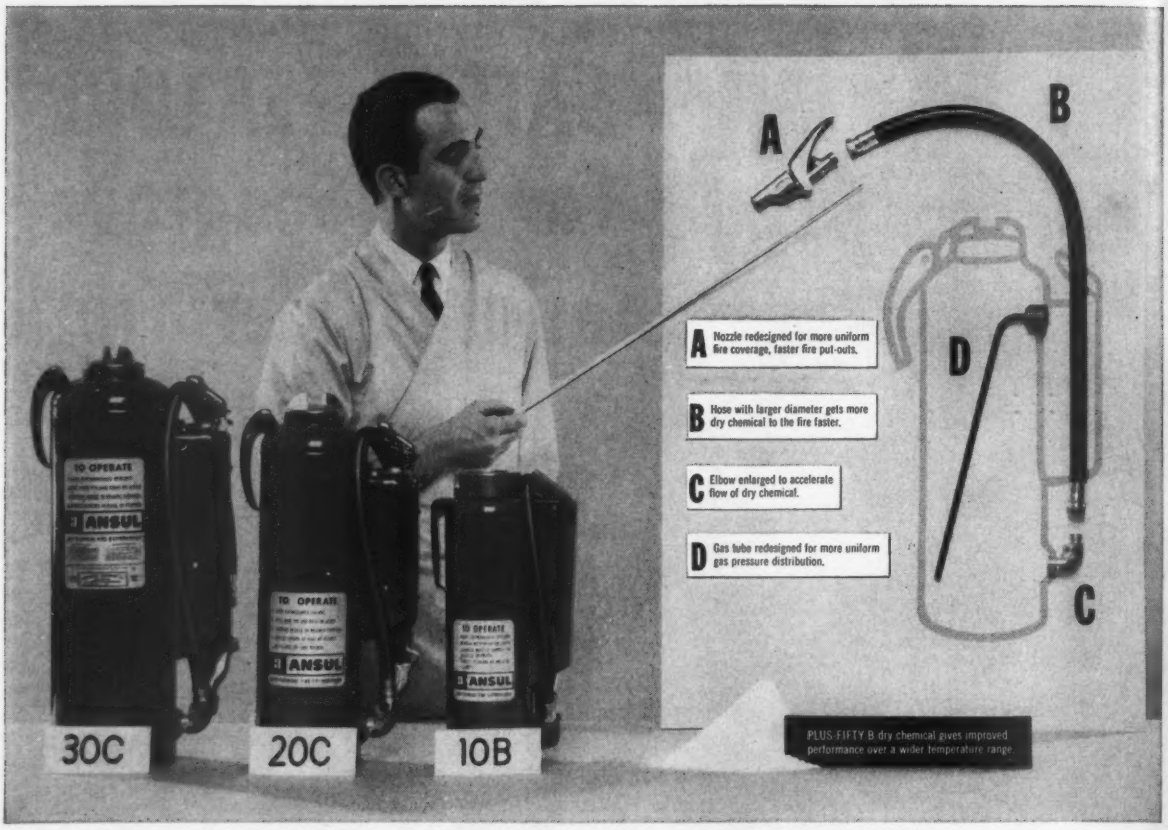
THE SEAGRAVE CORPORATION — COLUMBUS 7, OHIO
Send me complete information about the Seagrave Load Indicator.

Name _____

Street Address _____

City _____ State _____

F.E. 6/57


A
B
C
D
A Nozzle redesigned for more uniform fire coverage, faster fire put-outs.
B Hose with larger diameter gets more dry chemical to the fire faster.
C Elbow enlarged to accelerate flow of dry chemical.
D Gas tube redesigned for more uniform gas pressure distribution.
PLUS: FIFTY B dry chemical gives improved performance over a wider temperature range.
30C
20C
10B
ANSUL

Important design improvements in these Ansul Extinguishers give you more fire fighting power at no increase in price. Three years of research and more than 2000 fire tests turned up some significant new information on dry chemical extinguishment. Ansul engineers were able to design these findings into three new extinguisher models, the 10B, 20C and 30C. Result, greatly increased fire fighting power. All Ansul equipment is backed by a five-year warranty. This is the best way we know to say Ansul fire extinguishers are the finest of their kind made anywhere.

ANSUL

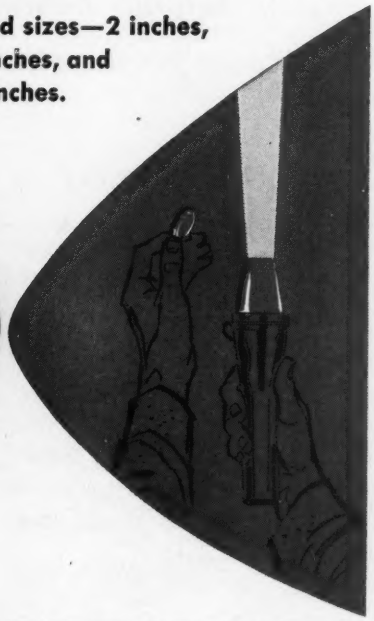
The Ansul Chemical Co., Marinette, Wisconsin

new!

RAY·O·VAC®

Unbreakable Signal Wands at LOWEST PRICES ever offered!

- New unbreakable plastic makes possible this new product at a new *low price*. Prices start at $1.05—Flashlight & Wand combination.
- Available on all standard Ray-O-Vac flashlights.
- Removable end cap for bright beam or warning glow.
- Red or yellow unbreakable polyethylene wands.
- 3 wand sizes—2 inches, 4 inches, and 8 inches.



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yes! I want to see a sample. Please send catalog with prices.

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CITY_____ STATE_____

Send to **DEPT. 206, RAY-O-VAC COMPANY**
MADISON 10, WISCONSIN

Coming in August . . .

The big Fire Chiefs' Conference and Buyers Guide Issue of* FIRE ENGINEERING *that's kept for year 'round reference

Never before in our publishing history, and

1957 MARKS OUR

has there been an issue that will offer so much helpful information, such practical guidance for the Fire Chief. For Example,

▶ **IMPORTANT EDITORIAL THEME—**

page after page will be devoted to "The Forward Look in Fire Protection" . . . dealing with the most pressing problems facing fire departments today and tomorrow . . . and what to do about them.

▶ **WIDEST APPEAL—**

every important phase of fire protection and prevention will be covered . . . for practical application in every branch of the service—paid, volunteer, industrial!

▶ **YOUR BUYERS' GUIDE—**

the most complete directory ever made available to the fire service is rightfully called "the market place of the field" by many readers and advertisers. This big section will include lists of apparatus, equipment and supplies in all product classifications, covering every type of equipment fire departments use . . . embracing all products featured in the advertising pages of FIRE ENGINEERING . . . and that means practically every manufacturer of any consequence!

The GUIDE, plus informative advertisements throughout the issue, will provide you with a handy and dependable reference for buying use on a year-'round basis.

Whether or not you attend the exhibits at the IAFC Conference (September 8-12, New Orleans) the 1957 FIRE CHIEFS' CONFERENCE and BUYERS' GUIDE ISSUE will keep you abreast of developments in the latest and most modern apparatus, equipment and supplies. Look for it!

All this in the August

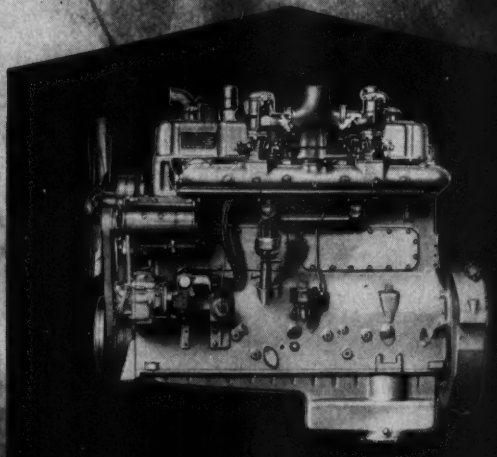
FIRE ENGINEERING

305 East 45th Street, New York 17, N. Y.
OREGON 9-4000 **ABC/ABP**

Closing Date for Advertisers: July 25!

finest fire engine
POWER

WAUKESHA



MODEL 145-GZB—260 hp range
Write for descriptive bulletins
WAUKESHA MOTOR COMPANY, WAUKESHA, WIS.
New York • Tulsa • Los Angeles

340

Chief POWHATAN'S *NEW* * DURA-FOG NOZZLE

- ***A Strong Husky Nozzle***
- ***Maintenance Free***
- ***Greater Reach***
- ***Finer Dispersion***
- ***Denser Curtain***
- ***Each Nozzle Sold Has A 100% Performance Test***

* *So Called Because of its Durability*

Rubber bumper for protection and non-slip grip. "Clicks" into straight stream or desired fog pattern. Stream can be selected by sight or touch. Floating gland type shut off. Shock absorbent shut off mechanism. Sure grip base and sturdy handle.

Over a million shut-offs WITH NO LEAK

Dura-Fog Nozzles have been thoroughly bench tested, to assure dependability. We strived for 250,000 shut-offs, actually tests have gone over a million with no leak!

PERFORMANCE DATA 1-1/2" SIZE

	STRAIGHT STREAM		30° FOG PATTERN		60° FOG PATTERN		90° FOG PATTERN	
NOZZLE PRESSURE	GPM	REACH	GPM	REACH	GPM	REACH	GPM	REACH
100 PSI	57	85′	60	40′	65	30′	72	20′
125 PSI	62	105′	65	43′	68	35′	75	22′

We have been manufacturing fire protection items for the past 64 years. If you do not have one, write for our catalog "A" which shows Powhatan's complete line.

POWHATAN

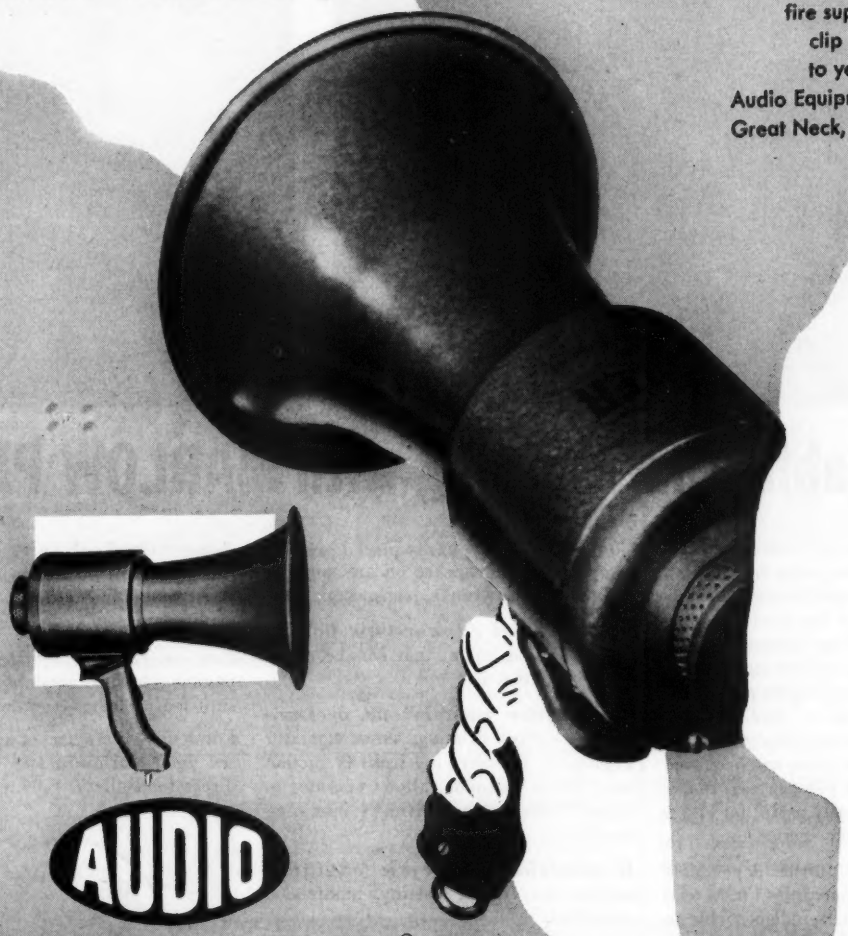
BRASS AND IRON WORKS

RANSON, WEST VIRGINIA

Make yourself HEARD!

—without KILLING your voice.

When each second counts . . . Audio Hailer *projects* your commands and warnings . . . instantly . . . up to half-a-mile away. With voice amplification of *1000 times*—it enables you to *cut through* the racket! Audio Hailer is the ONLY electronic megaphone, with a genuine vacuum-tube amplifier. Yet it is completely self-contained, operates on dry batteries, weighs only 5½ lbs. Experienced Fire Chiefs and Safety Engineers have called it "the most useful single piece of equipment in the house". For more details, or demonstration, ask your fire supply dealer, or clip coupon below to your letterhead.
Audio Equipment Co., Inc.,
Great Neck, N. Y.



AUDIO HAILER®

PORTABLE, SELF-CONTAINED ELECTRONIC MEGAPHONE

Amplifies your voice 1000 times!

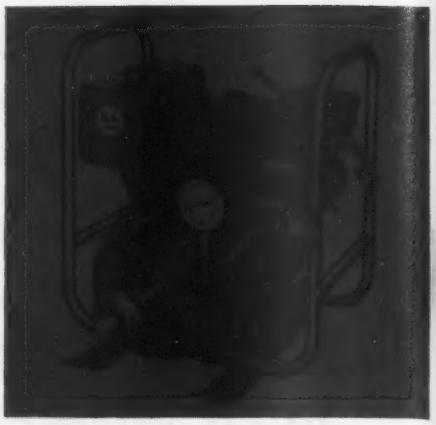
AUDIO EQUIPMENT CO., INC., Great Neck, N. Y.

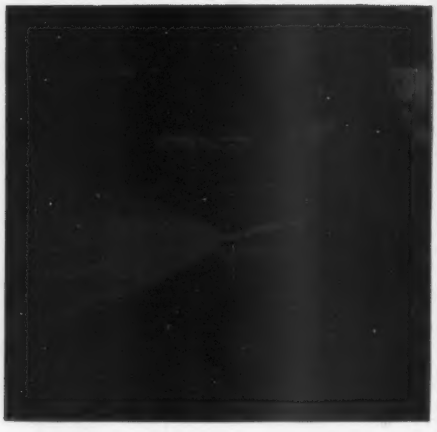
☐ Send brochure and price list on Audio Hailer
☐ Have your local dealer make demonstration

FIRE CHIEF:_____

DEPT. OR COMPANY:_____

TOWN OR CITY:_____ ZONE (if any)_____ STATE_____ (f)





Dependable Fire Fighting with MARLOW PUMPS

With a supply of surface water, a stream or pond, this portable pump becomes an efficient and light-weight fire fighter. Powered by a dependable four-cycle gasoline engine, it primes itself and starts pumping only 15 to 30 seconds after starting. Highly portable, the Marlow Fire Pump can be placed in a car trunk or jeep and dispatched quickly in an emergency. Because it is easily carried, the pump can be moved to remote areas that a pumper can't reach. On location, it is equally useful for either fire fighting or booster service.

Marlow Fire Pumps provide dependable protection for municipalities, industrial plants, and farms. It is indispensable to Fire Departments. This pump was engineered specifically for the job and has many outstanding features . . .

Exhaust primer — primes pump in 15 to 30 seconds, easily accessible to pump operator.

Lightweight — ribbed aluminum construction withstands high pressures, making readily portable unit. Weighs only 160 pounds with gas and oil, ready to operate.

Compact design—easily placed in small compartments or spaces on any pumper as well as in car trunks, jeeps, or pickups.

Welded-steel runner-type base — makes a rigid mount that can be easily lifted or skidded.

Combination vacuum and pressure gauge — when priming, shows operator whether or not there are leaks in suction hose. When pumping, allows operator to adjust pressure to individual operating conditions.

Dependable four-cycle engine — assures easy quick starting, unattended operation.

Shielded spark plug connection — prevents ignition failure from wet weather or spray.

Protective handles — Wrap around engine and pump and protect vulnerable parts. Handles are extra strong and are placed for convenient carrying.

Remote throttle — mounted on top of engine for easy operation.

Mechanical shaft seal — long-lived, rugged and requires no adjustment.

Automatic check valve — seals off discharge while priming, swings out of way when pumping starts, no hand valve to manipulate.

Fog or foam operation — over 100 pounds pressure available for low pressure fog or foam operation.

For details, literature, or application data, see your Marlow dealer today or write direct for Bulletin F-04.

Marlow PUMPS

6-227

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BELL & GOSSETT CO.

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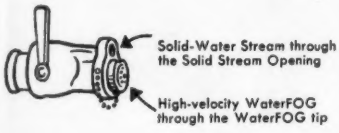
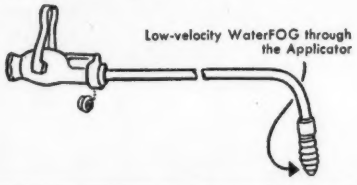
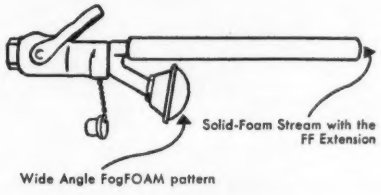
Rockwood SG-60 WaterFOG Nozzle is five nozzles in one

The lightweight Rockwood SG-60 WaterFOG Nozzle *eliminates "special" or single-purpose nozzles!* It actually does the work of five nozzles to put out fires faster, safer and more economically.

Here's what we mean . . .

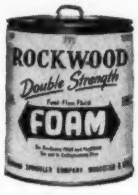




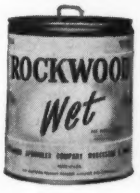


Here's what you need to put out ordinary combustibles and flammable liquids . . .

FOAM and "Wet" Eductor with the new FW Metering-Check Valve. Introduces Rockwood FOAM or "Wet" into hose lines, automatically proportioning correct amount of FOAM and "Wet" to water. Also usable wherever one liquid is fed into another on a fixed percentage basis.



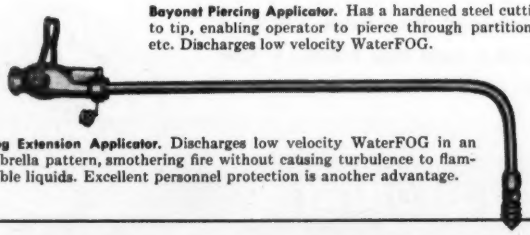
Rockwood Double Strength FOAM. Puts out fires in flammable liquids, and in ordinary combustibles, quicker, at lower cost. Three parts FOAM and 97 parts water create a heat-resistant blanket.



Rockwood WET. One part WET mixed with 99 parts water increases water's penetration and extinguishing action. Gives quickest results against deep seated fires. Saves time, water, manpower.

FF Extension Unit. Shown with Type SG-60 Nozzle. Discharges Rockwood FOAM in a solid stream or as Fog-FOAM. Wide angle makes it possible to cover large areas at one time.

Bayonet Piercing Applicator. Has a hardened steel cutting tool attached to tip, enabling operator to pierce through partitions, into interiors, etc. Discharges low velocity WaterFOG.



Long Extension Applicator. Discharges low velocity WaterFOG in an umbrella pattern, smothering fire without causing turbulence to flammable liquids. Excellent personnel protection is another advantage.

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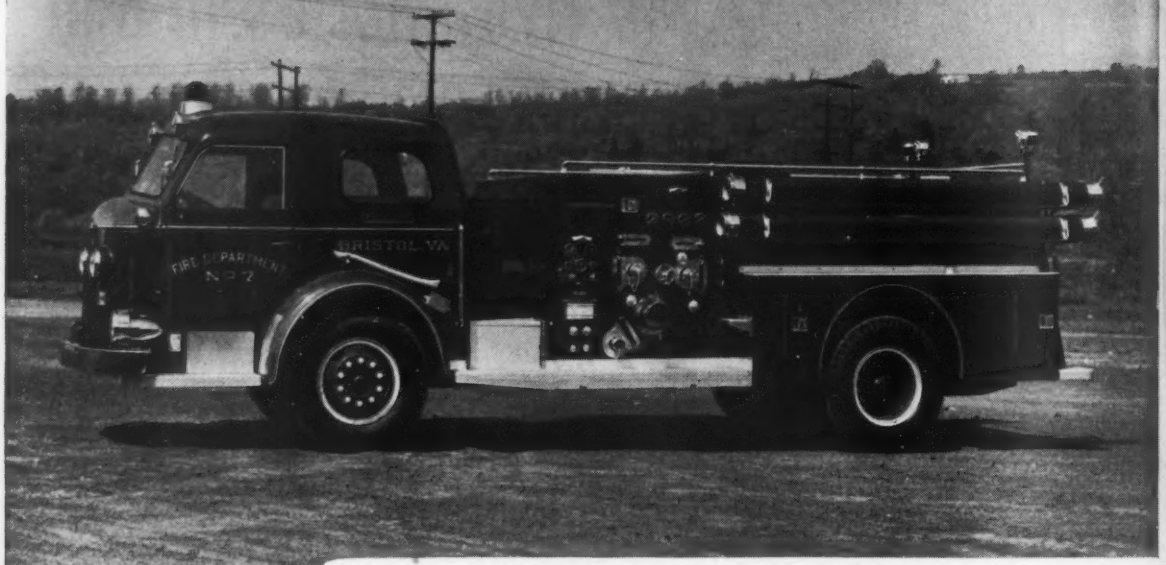

Fire Equipment—American LaFrance. Power—Continental Red Seal S-6749 Engine.

--- with ---
Equipment Using CONTINENTAL POWER

Fire apparatus is subjected to the sort of usage which underscores the need for extra care in its choice. Here, as in any field where round-the-clock reliability is a must, it's wise to standardize on a leading make —a make that features Continental Red Seal power.

Red Seals are the product of more than a half-century of specialized experience. Every model is engineered expressly for the job to be done . . . and backed by factory-authorized service and genuine Red Seal parts throughout the world.

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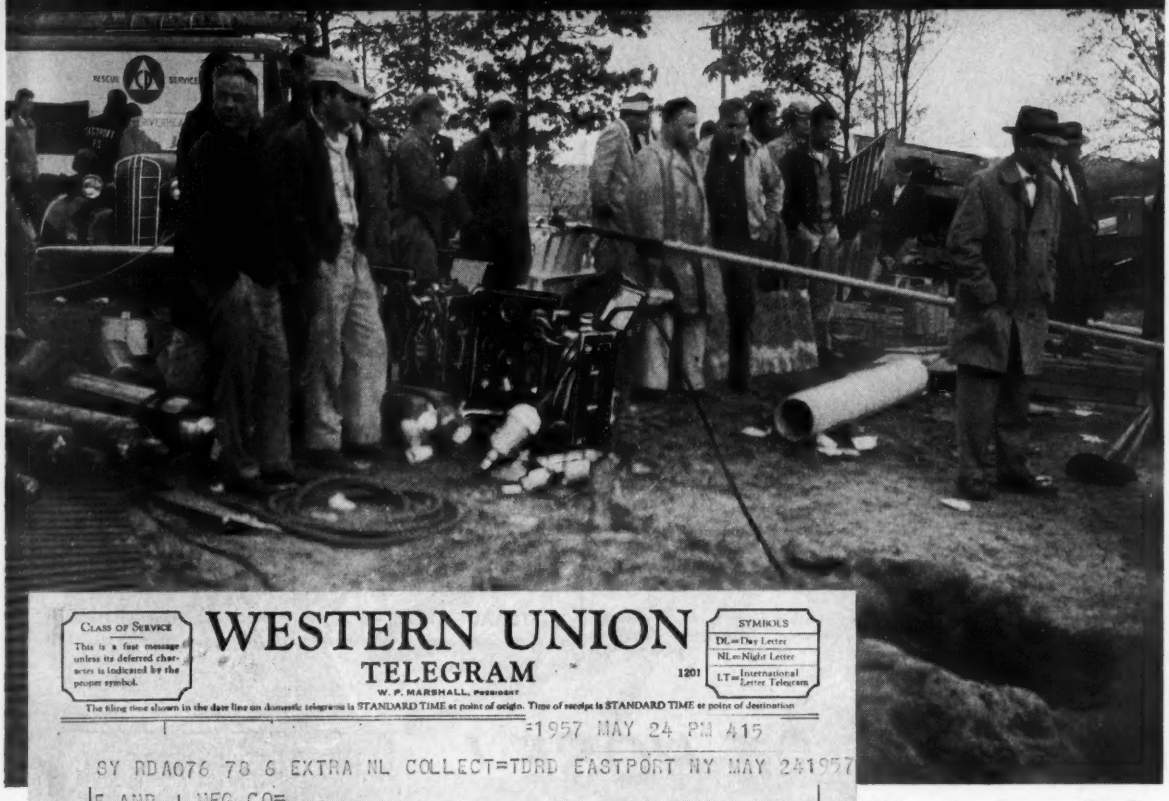

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WESTERN UNION
TELEGRAM
W. P. MARSHALL, PRESIDENT

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FIVE RESUSCITATORS ON SCENE OF MANORVILLE MIRACLE EASTPORT FIRE DEPARTMENTS E AND J THE ONLY MACHINE WITH ADDITIONAL EQUIPMENT TO ENABLE US TO PUT OXYGEN 21 FOOT IN WELL ALSO OUR MICRO UNIT WITH 35 FOOT HOSE WAS USED TO INHALATE BOTH WORKERS AND BOY AFTER REMOVAL FROM HOLE. A TOTAL OF 22 LARGE CYLINDERS OF OXYGEN WERE USED THROUGH OUR E AND J DURING THE 23 AND 1/2 HOUR RESCUE=
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THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

This wire from Chief Farlow shows the value of the world standard, E&J Resuscitator - Inhalator - Aspirator, better than any statements we might make.

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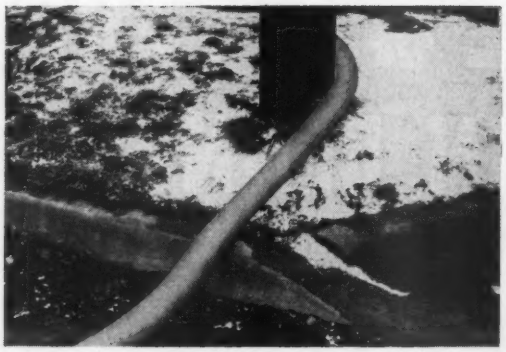
FLEXIBLE– Sure, Republic Fire Hose is flexible or no self-respecting fire department would use it . . . and lots of them use Republic Fire Hose exclusively.



DURABLE– High burst and resistance to pressure shock or water hammer. Strength of filler yarns gives this quality . . . no hose on the market has any better yarn in the jacket than Republic Fire Hose.

GOOD GRIP–You can grip and hold onto a rough surface much better than a smooth one. The rough texture of Republic Fire Hose inspires many firemen to identify Republic's as the "good gripping hose."

STORAGE SPACE–Curing shapes the hose. Republic's Flat-Cure permits easy handling, storing and coiling of more footage than any other shape.

GOOD FIRE HOSE!

Republic Rubber makes *good fire hose*...cotton or cotton and dacron jackets, rubber lined.

Everything about Republic's Fire Hose is special . . . the rubber (specially compounded); the yarn (specially selected); the weave (special design), to give the qualities of flexibility, water-tightness and durability. Below are the four grades of Municipal Fire Hose made by Republic Rubber. Order from Youngstown, Ohio, or any Republic District Office.

MILDEW-PROOFED

Provar treatment of cotton jackets is an exclusive process developed by Republic Rubber for the prevention of mildew and rot. The treatment is durable, will not wash out or lose its effectiveness. All four grades of Municipal Fire Hose made by Republic are supplied with Provar protection.

CHAMPION—Dacron filler, test pressure of 600 lbs. Best grade Fire Hose made.

TOWER — Dacron filler, test pressure of 400 lbs.

CHARIOT — Cotton yarn, test pressure of 400 lbs.

TARGET—Cotton yarn, made to meet demand for heavy-duty hose at moderate cost.

REPUBLIC RUBBER DIVISION

LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO

INDUSTRIAL RUBBER PRODUCTS

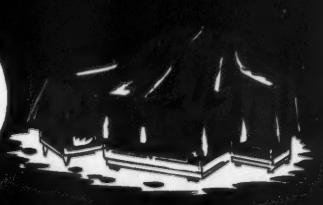
75% Water can be your enemy!

NOW! GET MORE PROTECTION

for salvage operations...for your equipment
with lighter...tougher

TUFF-TARP®

by Sawyer



America's No. 1 Vinyl-coated Nylon

Water is your best friend at any fire. But did you know that it causes 75% of the $1,000,000,000 damage done by fires every year! To get the best protection there is for salvage operations and for your equipment — protection against your enemy water, as well as smoke, chemicals and weather — get TUFF-TARP. No other covering material on the market offers the advantages of TUFF-TARP.

EXCLUSIVE TEST OF THE TUFF-TARP

- carries better — packs better!
- folds easily, quickly!
- sheds water better!
- cleans better and faster!
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- is easier to use under emergency conditions because it is waterproof on both sides!
- is easier to move while unfolded!
- spreads out easily, quickly!

in addition:

- has greater flame resistance!
- will not crack or peel at −30° F – +180° F!
- will not mildew or rot!

Get the protection of **TUFF-TARP** *and you get the best!*

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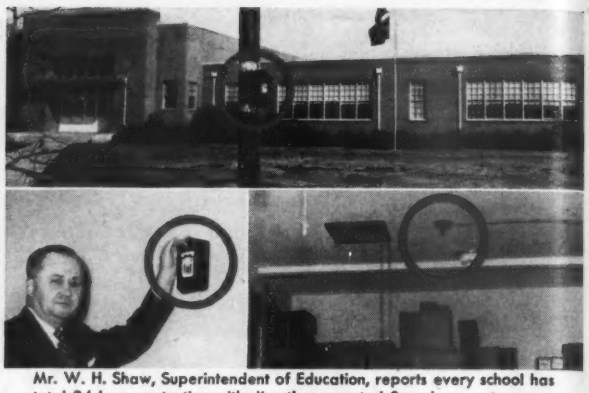
All churches connect to Fire Department by Master boxes, like this one. Interior has Sprinkler Watchman, Detectors and Non-Code Stations.



Mr. W. H. Shaw, Superintendent of Education, reports every school has total 24-hour protection with directly connected fire alarm systems.

The main street has three Master boxes plus two more — all within 3 blocks.

Columbus Officials Design Total Fire Protection Using Modern Gamewell System

FIRE FACTS **IN COLUMBUS:** Columbus fire protection is in the very able hands of this trio: Supt. of Alarm System, Tom Tillman; City Manager, J. A. Willman and Fire Chief T. C. Turner. They are shown in the new Police Headquarters and jail building which is protected by Detectors, non-code stations and alarm bell. Their responsibility covers a total of 27 square miles and a population of 135,000.

There are "no missing links" in Columbus, Georgia! Municipal management applies modern concepts in Fire Alarm Communications by using all the features of the Gamewell System to develop a completely integrated system which provides maximum protection for institutions, schools, churches, industrial properties, and commercial and public buildings. Over one-half of all the boxes in the city are Masters — directly connecting interior fire alarm systems to the Columbus Fire Department.

Direct Connection for Complete Protection is the theme in Columbus — why not make it yours, too? If you would like to develop this concept of fire alarm communications for your city, call on Gamewell. They offer a FREE Survey and technical assistance in helping you get the most for your money in Fire Alarms. Get started today—send for the "Quick Facts Checklist": **Conversation or Organization** . . . it will save you money.

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FIRE
ENGINEERING
VOL. 110, NO. 6 JUNE, 1957
THE JOURNAL OF THE FIRE PROTECTION PROFESSION SINCE 1877

Modernization—Mechanization—Automation

It has begun to dawn upon forward-thinking fire protection engineers of the nation's fire service that if progress in the business of fire suppression is to be accelerated, it will be by the adoption of the principles of efficiency, as practiced by modern business and industry.

Scarcely anyone familiar with the fire service, particularly as it exists in our larger cities, but what will agree that administering a municipal fire department today is "big business." This Journal has repeatedly made that statement and we see no reason to question it now. Quite the contrary.

Well, that being true, it follows that the principles of business administration may well apply, in many ways, to the task of running and maintaining a fire department.

Business administration, to be successful must show a return on investment. So, too, must a fire department. That return on investment (of the taxpayer's money) will depend in great measure on the efficiency with which the fire department is directed and operated.

Anyway you look at it, efficiency is a deciding factor. Without it, a business wilts and dies. Without it, a fire department will fail to measure up to the service for which it was created.

Efficiency simply means doing things the best way—the most time, money and labor-saving way. Whether it is opening a roof, taking out a window, stretching a line or overhauling—whatever the task or the job, there's a *right way* and a *wrong way* to do it. And there are varying degrees of "right ways." The right way of yesterday may not be the best way of today or tomorrow, measured by the efficiency standards employed by American business.

To carry our analogy further: What was until quite recently considered the "best way" to cut a floor opening, is far from the most efficient way, if modern tools are properly employed. The "armstrong" method of hacking out an opening in a floor or wall is woefully inefficient compared with modern cutting tools.

Mechanization has made American industry the greatest, most efficient in the world. Mechanization, to a degree, also has advanced the nation's fire service farther than that of any other world fire fighting force—mechanization typified by our power-propelled vehicles, power-operated pumps, ladders, etc. But there, efficiency in the application of mechanization apparently has stalled.

Just as business and industry have nowhere near reached the zenith of efficiency through mechanization, so the fire service is far from it. Industry is meeting the problem of skilled labor shortage by increasing mechanization, the end-point of which is now called automation. Mechanization simply means using power-activated devices to perform mechanically what formerly was done manually. Automation is accomplishing the results without even manual supervision.

It may sound fantastic, at least to certain old-time skeptics, to say that the business of fire fighting can use power to improve efficiency in fire control and extinguishment—to employ mechanical means where manual effort has heretofore been "the best way." But it isn't a dream. It is being done, in some measure. Witness our powerful portable power plants; new electrical, hydraulic and pneumatic tools for forcible entry, rescue, etc.

Fantastic? So was the "horseless" fire engine. "It'll never succeed," said one of the nation's greatest fire fighters.

The fire service cannot rely on yesterday's methods or material; it must, like other "big business," apply efficiency methods . . . advanced and applied research, the most modern scientific facilities and techniques, wherein machines and mechanized devices are made to do many of the tasks now done laboriously, and oftimes dangerously, by manual effort.

Roi B. Woolley

Editor

Ambulance squadmen rush cot to fire scene as Tulsa, Okla. firemen fight residence fire. A 6-year old boy was burned to death and his two brothers critically injured in this blaze

Fire Department Ambulance Services Are Rolling to New Records in Efficiency

FIRE ENGINEERING's latest study deals with the "mechanics" of present-day ambulance services—the rolling stock and equipment

EACH YEAR FOR MANY YEARS, the editors of FIRE ENGINEERING have recorded the progressive developments of the nation's ambulance services, with emphasis on those owned and/or operated by the fire forces, and those which, although not directly a part of the fire departments, nevertheless operate in conjunction with them.

Last year's study (March 1956) was based upon the actual experiences of 182 fire departments, paid and volunteer, which operated ambulance services. At that time there were in excess of 1,500 ambulances within the structure of the nation's fire service. The study attested the advantages to a fire department in having its own ambulance, whether its use was wholly or partially restricted to within the department, or available to the public as well.

That study made little attempt to review and delineate the "mechanical" phases of modern ambulance services, the types and kinds of vehicles maintained, and the "tools" of the first-aider and ambulancier. Those details were left to this year's survey, the results of which provide the basis of this report.

In presenting it, the editors point out that there is today a very narrow demarcation between the ambulance service *per se* and the rescue or emergency service of many fire departments. In not a few, ambulances perform rescue work, and in equally many more, rescue, emergency and first aid squads and corps render some degree of ambulance service. Insofar as possible, this text deals with the straight ambulance, as a unit of and operating within the structure and statutes of a fire department, and with the facilities which it regards as essential to its efficient functioning.

The text includes the reports of a number of outstanding rescue and first aid squads, not as a unit of the fire departments but which nevertheless maintain the most modern ambulances. In some cases the service offered by these units is of an emergency nature, supplementing that provided by the local hospitals or commercial interests, such as mortuaries.

As FIRE ENGINEERING has told in the past, a number of large city fire departments are responsible for either the complete operation of the ambulance services, or for the dispatch of hospital and/or commercial ambulances. Cases in point are Chicago and Washington, D. C. It was recently announced that the Los Angeles Fire Department would take on the operation of the emergency ambulance

Los Angeles To Provide Ambulance Service

Emergency ambulance service in nearly half the area of the City of Los Angeles will be provided effective July 1, 1957, by the Los Angeles Fire Department. The service is currently provided by a private contractor.

Six combination rescue-ambulance companies will be activated in the San Fernando Valley area at Fire Stations 60, 72, 74, 81, 87 and 88 replacing three rescue companies now in service in Division IV. Ambulance service officers at the city's Central Receiving Hospital will train 72 firemen for the new duty.

It is the first time that the L.A.F.D. has provided ambulance service, other than for its own personnel. The Fire Department will continue to operate five other rescue companies in the West Los Angeles, Harbor, Hollywood, Southwest and Downtown areas.

—Cliff Dektar

service in a large section of that big city.

In many smaller communities or districts, where there is no commercial service, the ambulance squad may be called upon for patient transportation when no emergency service exists. It is the feeling of a great number of squad members that this type of service creates good will for the department.

Vehicle design

The distinguishing feature of many fire department or first aid squad ambulances has been the widespread use of the luxury chassis of the passenger vehicle type. By a better than three to one ratio (judged by the current survey) the custom built ambulance on this type of chassis is predominantly the most popular. Next comes the combination rescue-ambulance vehicle which has been adapted from several commercial types. The panel-delivery type of chassis has been converted by some users into very useful units; the larger van-style body has also found its way into the service.

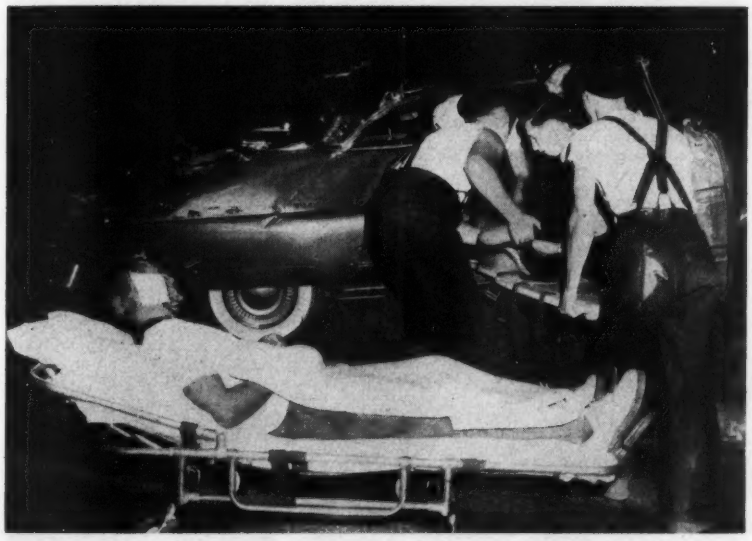
A third style that is rapidly gaining in popularity is the station wagon ambulance. The latter vehicle offers a number of advantages to a department that wishes to use it for a variety of purposes in addition to possible ambulance or emergency work.

Patient capacity

The most popular size of ambulance reported at this time has a capacity of two prone patients although three and four patient models are also in wide use. The latter case is most frequent where the rescue style of vehicle is operated as an ambulance. In some instances it is necessary to stack the patients one above the

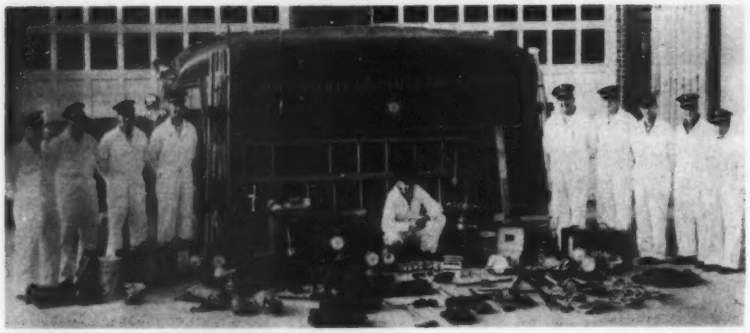
Bound Brook, N. J. Rescue Squad in action at automobile collision. This busy company operates two large custom ambulances as well as an emergency unit

Bailey's Cross Roads, Va. Volunteer Fire Department Rescue Squad 10 operates a custom ambulance in conjunction with its rescue unit. Both vehicles are radio equipped for operation on the fire department frequency and in addition the rescue unit has a second mobile unit for coordination of emergency service with local police



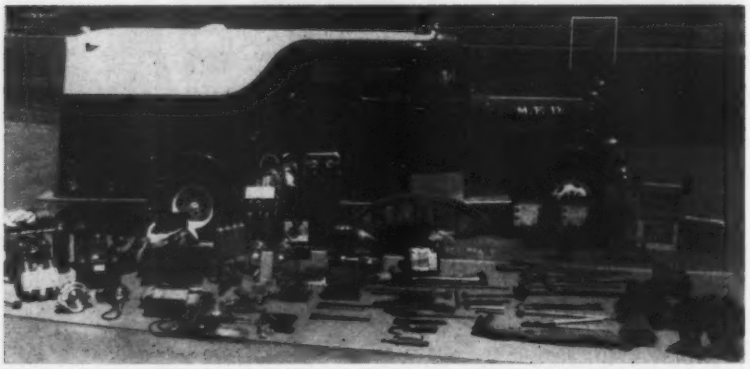
Annandale, Va. Volunteer Fire Department Rescue Squad members remove victims of night traffic accident. The squad operates two custom ambulances and a sedan panel unit which carries much of the emergency equipment but is also available for patient transportation. All vehicles are radio equipped

Ambulance of Eagle Rescue Squad, Little Falls, N. J. Fire Department has capacity of four prone patients. If additional facilities are required the rescue unit can accommodate five prone patients. Both vehicles are radio equipped and the rescue unit has a PA and electronic megaphone plus a complete assortment of land and water rescue tools and appliances



This rescue unit which saw hard service with the Silver Springs, Md., volunteers, was bought by the Burtonsville, Md., Volunteer Fire Department for less than $1,000. The Burtonsville department now boasts a well-equipped rescue squad and an ambulance. Photo shows only part of equipment carried

Members of West Bend, Wis. Fire Department Rescue Squad use resuscitator at scene of a water emergency. Portable floodlights for night operations are powered directly from the engine alternator of this rescue-ambulance vehicle



Well equipped rescue apparatus of the Minneapolis Fire Department may be pressed into service as an emergency ambulance when necessary

other on special racks in the van or panel type body.

Captain Howard C. MacFarlane of the Eagle Rescue Squad, Little Falls, N. J. Fire Department voices the opinions of several authorities when he advocates two ambulances each with a capacity of two prone patients as being better than a single vehicle with a capacity of four patients.

Capacity for sitting patients is almost universally reported as two, although in the case of the special rescue type body this may be limited only by the number of seats provided for transportation of the crew to the scene. In some of the latter vehicles it is possible to seat as many as 10 or more persons.

Equipment storage space

Nearly all squads and companies reporting in this latest survey mentioned that the equipment carried should be as complete as the available space allows. In some cases this was qualified by the distance from the district served to the nearest hospital. One company reported that its large stock of equipment carried on the ambulance was due to the fact that the hospital serving its area was located some 20 miles distant.

The standard ambulance body may not satisfy the desires of some crew members when it comes to compartments. Due to the type of body utilized, space is limited.

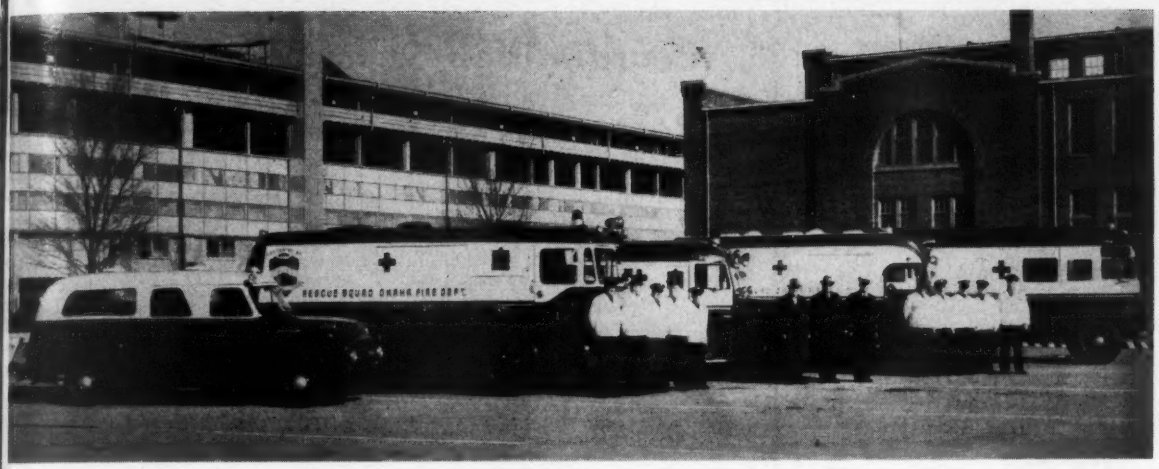
The panel or van-type body may offer much greater compartment space but, on the other hand, may fall far short of the desire for patients' comfort. The conflicting requirements of comfort and space has led many departments to the use of two units; a custom-built ambulance and a rescue emergency unit. Both operate together, the rescue unit remaining at the scene of the emergency to cope with the problem at hand, while the ambulance evacuates the injured to the nearest hospital. If further removal facilities are desired the rescue vehicle may be pressed into service as an ambulance.

Tools and accessories

Some divergence exists in the type of equipment carried on ambulances. Survey returns indicate that the modern ambu-

"Standard Equipment" Carried on Most Ambulances

- ambulance cot (folding cot very popular)
- stretchers
- resuscitator
- inhalator
- extra oxygen
- blankets—sheets—pillows
- splints
- doctor's kit
- first aid kit
- burn kit
- maternity kit
- handlights
- radio



Emergency apparatus and personnel of Omaha, Neb., Fire Department Rescue Squads. The large vehicles are capable of transporting a full size iron lung in operating condition and the method has proven effective in electric shock or water rescue cases

lance cot is most important, both in the solid frame and folding style. The simple army-style stretcher is also very popular on rescue apparatus as it offers the advantage of storing in a minimum of space and large numbers can be carried.

Many ambulance and first aid squad officials reported that doctor's bags or emergency kits are carried for use by a physician on the spot. One squad captain reported that such an item of equipment is very useful when the ambulance is called to an emergency at a sporting event or similar gathering, where a doctor may be available in the crowd of spectators. It is then possible to afford immediate medical assistance by providing the physician with the supplies carried in the kit. Many ambulances are now being equipped with maternity kits, the studies disclose.

First-aid kits are carried in profusion. Generally these are made up from commercial components to satisfy the needs of the ambulance company based upon past experience. However, commercially prepared kits have a wide acceptance.

The survey indicates a variety of splints for broken bone cases. These essentials are reported as being about evenly divided between commercial and home-made versions.

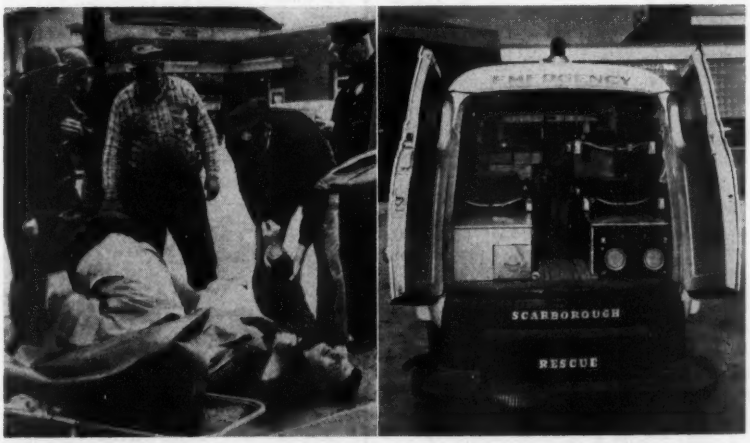
Blankets are carried in profusion. The reported average per unit is in excess of one dozen. The great majority of blankets are of wool, although a few cotton and paper blankets were mentioned by respondents. Rubber sheets are standard on many vehicles.

Breathing equipment

Protective breathing equipment for the crew members is carried on some custom-built ambulances but where the rescue-ambulance vehicle is operated, a great number of masks is usually found. Practically every reporting company which is equipped with the latter style of apparatus mentioned either self-contained or filter masks, with the former the most popular.

Inhalation and resuscitation equipment

First aid team of the Citrus Heights, Calif. Fire Department drills under supervision of a state instructor. This all-women squad was formed to relieve firefighters of extra-curricular first aid activity and they respond to an average of 200 alarms per year



LEFT: Firemen of Wheeling, W. Va. Emergency Squad give first aid to pedestrian who was struck by auto. One man restrains writhing victim as other squad members immobilize fractured leg in preparation for ambulance trip to hospital. **RIGHT:** Many rescue units double as ambulances where the department is limited to only a single vehicle as with Scarborough, Maine Fire Department Emergency Rescue Squad apparatus

Additional Equipment Reported Carried

pick axe
wrecking bar
small tool kit (including hack saw)
hydraulic jack rescue set
public address system
electronic megaphone
fire extinguishers
thermos bottles
chemical heat packs
folding wheel chair
back board
ring cutter
ice bags
web straps
crutches
rope
contagious kit
rubber gloves
asbestos gloves
flood lights
electric generator
electric power tools

is found on almost every piece of equipment regardless of type. Iron lung equipment was mentioned in some reports and one large city department reported that several were maintained, with a special vehicle provided to transport the large size, prone-patient model.

Emergency oxygen supply is another popular item mentioned in almost every return. The average is three bottles or cylinders per vehicle. Typical of the comments on this subject was that of Captain A. T. Harris of the Waynesboro, Va., First Aid Crew, who stated that additional oxygen has proven invaluable for treating heart patients on the way to the hospital as well as for prolonged resuscitation work.

Rescue equipment

Hand tools for effecting rescue were infrequently mentioned in connection with custom ambulances. This obviously is because of the more limited space available for such equipment on this type of vehicle. However, practically all rescue vehicles carry a large and varied supply of emergency tools for freeing victims of accidents or other emergency tasks. Prominent among these are the power tools, both hydraulic and electric, which have by now proved to the fire and emergency services their manifold merits. Hydraulic style devices were reported in several instances as being ideally suited for automobile accidents where the gasoline vapors presented an additional hazard to rescue operations. Electric power tools operated from portable generators are generally found only on rescue apparatus —logically not because of lack of interest in such equipment, but because of insufficient carrying capacity on other types of vehicles. One interesting comment came from a company which stated that a transformer attached to their engine alternator enabled them to use portable lights without carrying a separate generator in the limited space available on their ambulance.

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Coordination Sparks Celebrated Rescue of Long Island Lad

DURING THE EARLY EVENING of Thursday, May 16, Benjamin E. Hooper of Manorville, L. I., N. Y., was digging a well in the back yard of his home. His young son, Benny, aged 7, was playing in the vicinity and attempted to jump across the opening. Failing in the attempt, he slipped into the well and disappeared down the 24-foot shaft.

A playmate shouted that the boy had fallen in the hole. Mr. Hooper grabbed a flashlight; looking down the shaft, he could see his son wedged about 21 feet below the surface. Mr. Hooper lowered a rope but the boy was not strong enough to hold on with the one hand that was free.

Mr. Hooper hurried indoors and called the Manorville Fire Department and the Brookhaven Town Police. At the Riverhead telephone exchange, Mrs. Hooper, the boy's mother, was on duty and for 20 minutes she handled the sudden deluge of emergency calls before it dawned on her that the rescuers were being directed to her home.

Mrs. Hooper arrived on the scene to find that firemen of the Manorville department had lowered a hose down the shaft to the boy and were supplying him with oxygen while other workers had begun to dig a rescue shaft about 15 feet from the well. In the meantime Fire Chief Andrew Waski of Manorville had conferred with Police Chief Edward N. Bridge and it was decided to contact the Suffolk County Civil Defense Office for rescue personnel and equipment to supplement the efforts of the Manorville, Riverhead, Eastport and Center Moriches Fire Departments, which had responded to the call.

CD drill authorized

At approximately 9:15 p.m., CD Director John L. Barry was contacted by phone and advised of the situation by the police. He immediately authorized a training drill and ordered the rescue service into operation. In addition, he ordered the inventories of equipment to be studied in order that available oxygen and other emergency supplies could be obtained if needed. Rescue Chief John Zaleski of the Riverhead CD rescue squad responded to the scene in company with the rescue crew and truck at about 10:30 p.m. and reported to Michael Stiriz, a local contractor who had been placed in charge of the digging operations.

The hole the boy jumped into was 15 to 18 inches in diameter. It had been made by a pole hole digger with the handle extended by the addition of pipe as the hole got deeper. The shaft curved near the bottom due to the flexibility of the tool created by adding the sections of pipe.

To protect the boy from cave-in, a section of 6-inch irrigation pipe was lowered as far as possible and the oxygen hose was lowered through this with the utmost care, mostly by feel. It developed later that the oxygen hose had been placed in exactly the right spot. A few inches higher or lower would have rendered it useless.

Because of the extreme sand conditions a few feet below the surface, any attempt to dig in the vicinity of the shaft would have caused it to fill completely. It was decided to dig a large hole with a power shovel about 15 feet away and then tunnel over to the boy from the bottom of the rescue shaft. Unfortunately after digging about eight feet the sand condition made the use of the power shovel impossible. The workers again returned to hand digging and shoring operations were begun to control the sand cave-ins.

At 4:00 a.m., Friday, the shaft was completed and tunneling operations were

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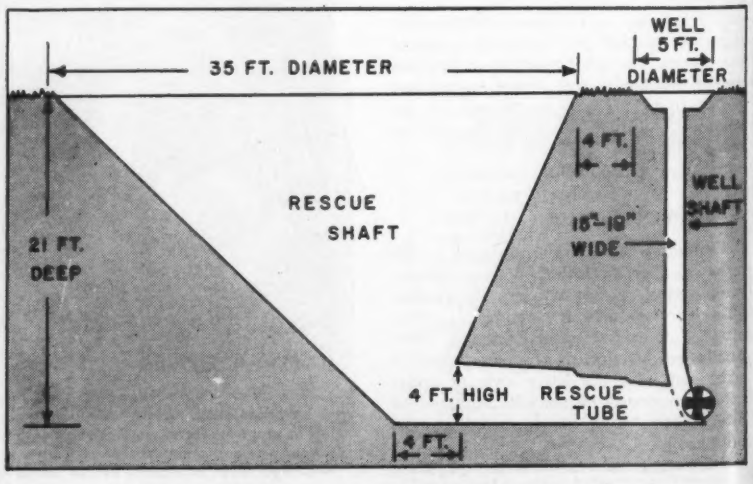

Profile sketch of rescue operations

Standing elevator shaft and serial ladders are silhouetted against the flaming ruins of the Columbia Hotel, Asbury Park. Arson is suspected cause of fire that destroyed several large buildings with a loss of more than $500,000.

New Jersey Hotel Fires Spur Arson Hunt

Asbury Park and Atlantic City Emergencies Test Mutual Aid Plans; Losses Total Nearly $1,000,000

ASBURY PARK

SHORTLY BEFORE MIDNIGHT on February 28, fire broke out in the 150-room Columbia Hotel, Kingsley Street and Eighth Avenue, Asbury Park, N. J. Flames from the five-story wooden structure quickly extended to the 50-room Commodore Hotel next door, and then to an adjoining rooming house and the nearby Seventh Avenue Garage. Both hotels were closed for the winter but workmen had been rehabilitating the Columbia in preparation for the coming tourist season.

The fire was reported by a passing motorist who pulled Box 92 at 11:45 p.m. At the same time a telephone alarm was received for the fire. When Asbury Park firemen arrived, the buildings were burning furiously, fanned by a 25 mph wind. Acting Chief Michael DeSarno sounded a second alarm at 12:03 a.m. which recalled all off-duty paid men and activated the city's volunteer companies. At 12:10 a.m. Chief DeSarno called the Monmouth County Police and requested mutual aid. At 12:25 Chief DeSarno conferred with Frank L. Wilgus, secretary of the Monmouth County Civil Defense Organization, and in the absence of an Asbury Park Civil Defense director and at the chief's request, Mr. Wilgus declared the situation a disaster and activated the County disaster control plan. The County Police were again notified and additional mutual aid was summoned under the plan. The county control center also arranged cover for the responding companies.

Many Hotels Threatened

More than 30 pieces of apparatus answered the call and at the height of the blaze 300 firemen were engaged in the struggle to confine the fire which threatened other large hotels in the area, including the block-long Monterey across Kingsley Street and the nearby Berkeley-Carteret. Firemen employed six aerial ladder pipes and numerous hand lines to prevent the spread of flames to these and other exposures.

A portion of the Kingsley Avenue side of the Columbia Hotel crashed into the street at the height of the blaze, disrupting power lines carrying 2,100 volts. The fallen wires endangered four Asbury Park firemen operating an aerial ladder. All jumped to safety from the platform of

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ATLANTIC CITY

SHORTLY BEFORE 3:00 a.m. on March 1, a woman resident on Oriental Street, Atlantic City, N. J., was awakened by crackling noises. Investigating, she saw flames on the second floor of the Merion Hotel, at the northwest corner of Oriental and Vermont Avenues. She immediately notified the operator at City Hall of the fire, the alarm being recorded at 2:50 a.m. The four companies responding on the first alarm found the lobby of the six-story, 150-room structure a mass of flames.

As firemen began operations the fire extended across an alleyway separating the Merion from the Sunnyside Hotel at 305 Oriental Avenue. Within five minutes this five-story, 65-room structure was almost wholly involved.

Residents evacuated

A 25-mph wind scattered embers and brands over a wide area. Firemen and policemen were forced to arouse residents of Vermont, Oriental, Victoria and Rhode Island Avenues and evacuate scores of families to safety. A driving rain and 36° F. temperature added to the discomfort.

A second alarm was transmitted at 3:01 a.m., followed by a general alarm at 3:37 a.m. This brought all city apparatus and off-duty men to the scene. In addition, Acting Chief Joseph Berenato requested mutual aid assistance. Companies from Margate, Ventnor, Pleasantville, Linwood, Absecon, Northfield and Pomona Naval Air Station responded.

Firemen were kept on the run protecting exposures and it was necessary to employ squads of men with apparatus to extinguish scattered roof fires. One exposed residence, separated from the Merion Hotel only by a few feet, was saved by the efforts of the fire fighters.

At approximately 4:30 a.m. the roof and parts of the walls of the Merion collapsed and shortly afterward the Sunnyside roof caved in. By 7:00 a.m. the fire was brought under control and residents

Continued on page 567

Training in mask use and maintenance should be as much a part of every fire fighter's schooling as stretching hose and raising ladders. Many authorities believe instruction should cover all types and kinds of respiratory protective equipment (*Scott Air-Pak*)

Not enough fire fighters are equipped with proper respiratory protective equipment for today's rescue and fire fighting. There are too many "first in" men having to be dragged out of fires because they had no mask protection or used it improperly (*Globe Industries Globair*)

Heads Win — Lungs Lose

Proper respiratory protection for the fire fighter is sound insurance—but there ought to be more "policy holders"

By JOHN B. DUNNE

HOW MANY CITIES OR TOWNS would send a man to fight a fire wearing a felt hat, a sport shirt and tennis shoes? Silly question you say? Maybe so, but the same cities or towns often do an even more foolish thing. They protect the man's head with a good strong fireman's hat, and his body with rugged rubber clothing, and his feet with safety toe boots—but they send him into fires unprotected in his most vital area—*his lungs*. I am sure that if you asked the man to go into a fire in his shirt sleeves and without any safety precautions for his head or body he would balk. The same man will wade into an unknown atmosphere with nothing over his mouth and nose without a question. And yet five or ten parts per million of certain gases he may inhale will knock him out in a few seconds.

Why do you suppose such a paradox exists, wherein the greatest hazard to a fireman's life is ignored while other protective measures are considered a must? It's a matter of education. First, the men who fight fires themselves need more education about how dangerous some atmospheres are to their lives. They need to understand that carbon monoxide or hydrogen sulfide or oxygen deficiency won't give them a second chance, and that superheated air will cook their lungs in seconds. Second, the cities and towns which rely on these men to save life and property need education about how to protect them. The men who run the fire departments and the men who run the finances need to realize that killing or disabling firemen is economically unsound, needless and inhumane.

Firemen are not expendable

With the development of new plastics and other synthetics, and the ever-increasing use of various chemicals, fire fighting has become much more complex; and even a small fire in a variety store, paint shop or pharmacy might release sufficient toxic gases to kill or incapacitate a whole fire company. If you don't believe this, check your local newspapers for a short period or look over the lost time records of your own department. No day passes in this country but what some fireman or firemen are removed from a fire overcome by smoke or carbon monoxide. What a terrific waste of manpower . . . and so senseless, too! Certainly, in this day and age no one can have the crazy idea that firemen are expendable!

How much does a fatal accident to one of your city or town employees cost? Ten thousand dollars? Do you know how much respiratory protective equipment this would buy? You can outfit 50 men with the best equipment known today for that sum. And the cost of the maintenance will be pennies per man to keep the protection in service.

At present, an air or oxygen mask can be purchased for about two hundred dollars; so all you have to do is multiply that by the number of men you have on any one shift. Unlike hats, coats, and boots, men on different shifts can share the same mask and still all will be protected. Nor will this equipment quickly wear out. With proper maintenance a mask will last 10 to 20 years.

How can the story of proper respiratory protection be carried to the parties who should be interested? This isn't a simple matter because budget-conscious city and town councils may look on "lung protection," as a frill. Furthermore, for some inexplicable reason, some fire fighters still regard wearing masks as a sign of weakness. They feel they must "eat a certain amount of smoke" to show how

Results of furnishing all men with respiratory equipment may be measured against the statistics of firemen overcome by smoke and gases as reported in the daily press. Cost of equipment measured against the price of a fatal accident is insignificant (*Cycle-Flo Pocketaire*)

Masks are a "must" in the same category with helmets, turnout coats and boots. Efficient fire fighting demands that lung protection be considered on an equal basis with head and body protection both from the humanitarian and the economical point of view (*M-S-A Chemox*)

tough they are. Where this assinine attitude originated that wearing masks is sissy, is hard to say, but it still persists, and it remains a barrier to instituting good mask training and wearing programs. It can only be gotten rid of by a good hard hitting campaign of education which is directed at the city council, mayor, city manager, fire chief, down to the lowliest rookie on the department.

Even while the writer prepares this article, the radio and newspapers advise that 15 firemen and a policeman were hospitalized in a metropolitan fire due to smoke inhalation. So you see, we are talking about a current problem that is not academic but is very acute.

In industry, great strides have been made in teaching safe practices and controlling hazards. This has been done by teaching employer and employee alike what to look for and how to avoid accidents. Thousands of lives have thus been saved and millions of dollars have not been needlessly wasted due to this emphasis on education. The city or town—in the case of the fireman—is the employer while he is the employee. Intensive education must be introduced to convince both employer and employee that this protection pays off in longer life, less loss of time, and better fire fighting techniques.

"There ought to be a law!"

You may ask, "Why not pass a law . . .?" That seems to be the panacea in the minds of some people for all ills of a community—or mankind. Some states have passed laws requiring that respiratory protection must be provided, but they have forgotten to attach any penalties for failure to conform. In other words they have left the teeth out of the legislation. Departments not conforming may be criticized but not penalized. One state has stipulated that each company must have a minimum of two self-contained breathing apparatus, and that these must bear the U. S. Bureau of Mines approval. This is a step in the right direction, but we have observed at least 10 companies in this state recently and all of them had *just two masks!* How about the other dozen or so men? Can two men breathe for them all in a toxic atmosphere? No, passing a law doesn't even begin to protect all men. Even if an ideal law were passed requiring protection of *all* fire fighters, there would still be the ones who would not wear the protection afforded them. These "smoke eaters" would go into fires unprotected and gamble with the odds stacked against them.

Firemen's lungs will continue to take a beating and men will die or be badly incapacitated until the men themselves, and the ones who direct them in fighting fires, understand what poor business "smoke eating" is.

Space does not permit a full discussion of all the unhappy results that may be the lot of the "smoke eater." Briefly, it should be pointed out that he may become a chronic asthmatic, suffer from Emphysema, high blood pressure, or chronic bronchial disease. He may eventually suffer acute or chronic heart disease because of his diet of smoke. Check the actuarial departments of life insurance companies for their statistics on firemen and their life expectancy. The matter of smoke inhalation goes far beyond just the acute stage of bringing the man out unconscious or otherwise incapacitated. He can be patched up and put back to work within a few days. He is, however, a sitting duck for pneumonia, influenza, bronchitis, and similar ailments which will no doubt put him on sick leave.

What's the answer?

It doesn't make much sense then, does it, to expose valuable employees to all the hazards we have briefly outlined? It can only result in economic loss and human suffering, and an inefficient fire fighting force.

What can be done to correct this needless waste? Let us summarize:

1. Educate each and every fire fighter to the dangers inherent in inhaling smoke and fumes.
2. Point out to city and town councils, mayors, and city managers, the folly of protecting the head but exposing the lungs of their firemen.
3. Encourage state legislation requiring respiratory protection for all firemen; *and put "teeth" in the laws.*
4. Develop a new philosophy of fire fighting which includes using every safeguard available for each and every man; and the realization that the only good fireman is the safe, healthy fireman.

It does not seem that this program would be too hard to implement but it will require cooperation of everyone concerned. As long as "heads win—lungs lose," fighting fires will be inefficient and will extort a huge toll of human life.

Let's reverse the trend and give the lungs a chance! □□

To the foregoing, the editors of FIRE ENGINEERING *add a hearty "amen." Municipal officials who direct the destinies of fire departments—yes, and fire chiefs who are unable to "sell" their commissioners, councils and other superiors on the need for proper respiratory protection, might well figure out just how much per year, month, week—and day a fireman is worth to the community he serves. Aside from the humanitarian considerations, it is financially uneconomical not to provide fire fighters with the protection that means insurance against loss of valuable services at a time when they are badly needed.*

Belching a plume of smoke and sparks Hartford's "Jumbo" answers an alarm. Witty tradition maintains steamers started as many fires as they put out —*Photo from Roi B. Woolley's collection*

SAGA OF THE STEAMER

Epic period in the American Fire Service, which set the stage for the mechanically powered pumping engine

By CLARENCE E. MEEK

Hon. Battalion Chief, New York Fire Department

THE "LONDON ENGINEER" of December 31, 1875, contained an article by Captain John Ericcson, of the ironclad "Monitor" fame, and then a citizen of the United States, in which he described the performance of a steam fire engine built in London in 1829 by George Braithwaite according to his designs. Captain Ericcson said, "Having originated and perfected the new system, I claim to be the father of steam fire engines."

Ericcson's claim seems to have been a valid one, but the records of the period show that only five engines were built by Braithwaite and Ericcson—the last one in 1832—and that these were not considered successful replacements of the manual engines. No more steamers were produced in England until the 1850's after interest had been revived by activities in America.

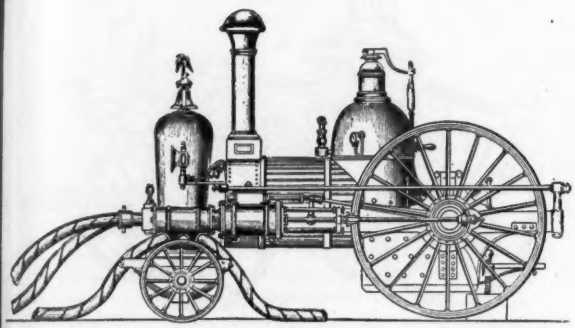
The first steam fire engine constructed in the United States was a locomotive-type self-propeller built in 1840 by Paul R. Hodge of New York City. The machine was tried out in the volunteer department but was found to be too cumbersome and slow, and after a few months' service was sold to a factory for use as a stationary power plant.

It was in 1840 that the Mechanics Institute in New York, offered a gold medal for the best design for a steam fire engine. Only two or three designs were submitted and the committee awarded the prize to Captain John Ericcson for a prototype from which no engines were ever built. While the Hodge machine was soon relegated to the ignominious career of a factory engine, several interested manufacturers of manual pumpers began experimenting with the application of steam power and by the middle 1850's, the steam fire engine business was somewhat shakily established as a going industry. No less than 18 fire engine builders had constructed steamers by 1859. Some were self-propellers, a few were drawn by as many as six horses, but the majority were light machines which replaced manual pumpers as hand-drawn engines.

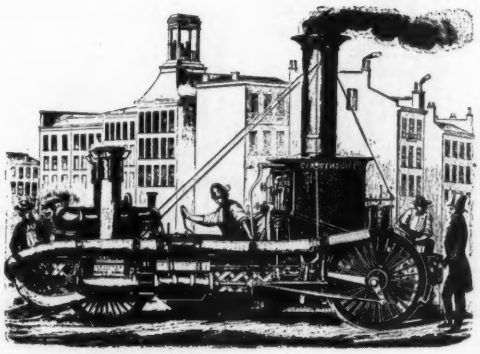
Latta—and the "Joe Ross"

Moses Latta, of A. B. & E. Latta Company, Cincinnati, Ohio, built what is generally credited with being the first successful steam fire engine—the "Joe Ross"—constructed in 1852 and put in service in the Cincinnati Fire Department with a paid crew, which incidentally, was the first permanent fire force employed in the United States.

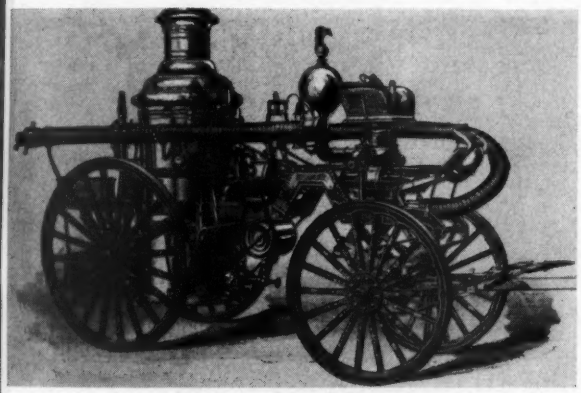
The "new system" of steam fire engines and professional firemen stirred up the volunteers of New York and other large cities to feverish and bitter opposition through fear that the adoption of power-operated pumpers would result in the displacement of the volunteer organizations—a fear which was soon confirmed as a real threat to the political supremacy of the volunteer hierarchy. In his annual report for 1859, Chief Engineer Harry Howard of New York, devoted several pages to the subject of steam fire engines and said, in part, "During the past year the Department has been much agitated



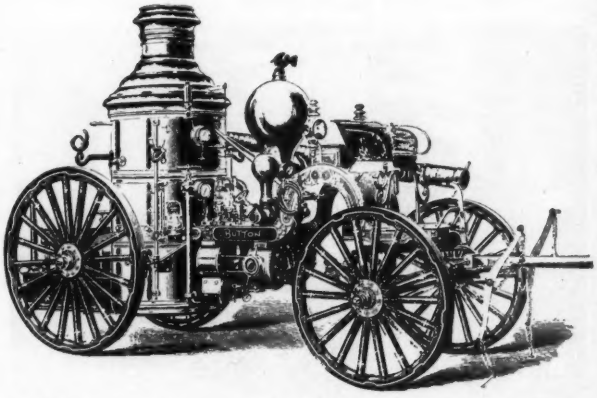
Hodge's steam fire engine—first steamer built in America won gold medal of the New York Mechanics Institute



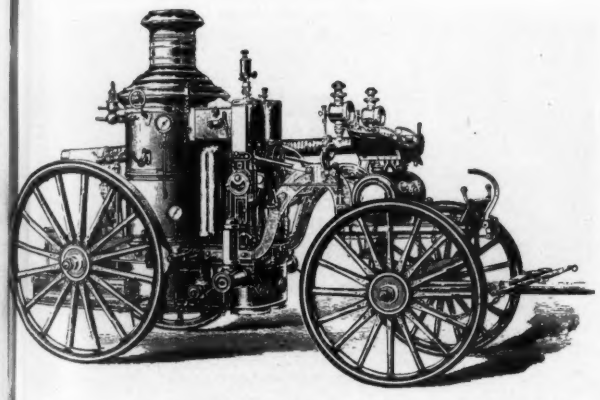
Latta's "Joe Ross" credited as first successful steamer was operated by the first paid fire crew in the United States



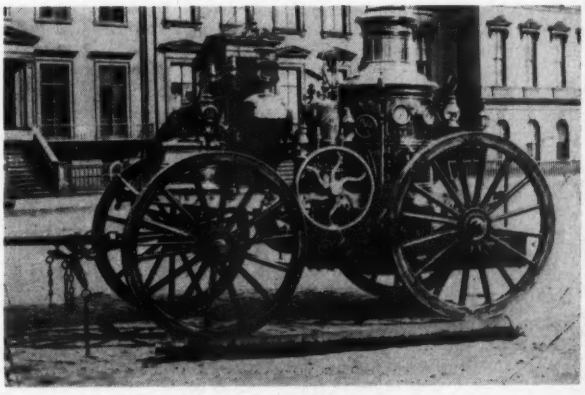
Silsby rotary gear engine used the Holly pump and set a pattern for its later use on motor fire apparatus



Double Button engine—the horizontal pump was featured by Button even after competitors changed to vertical pumps

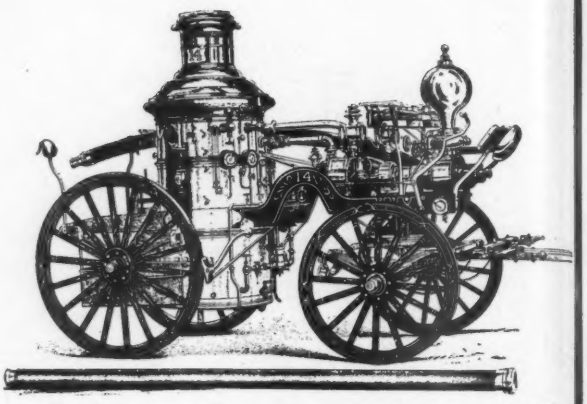


Clapp and Jones double engine—the company was absorbed into the American Fire Engine Co. which continued the model

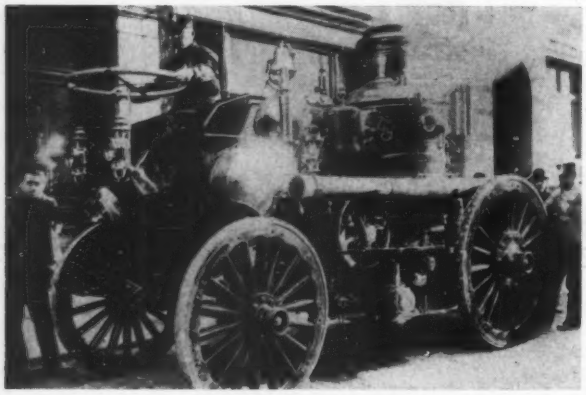


Double-pump Amoskeg—outstanding name in the steam engine field, its engines were in service from coast to coast

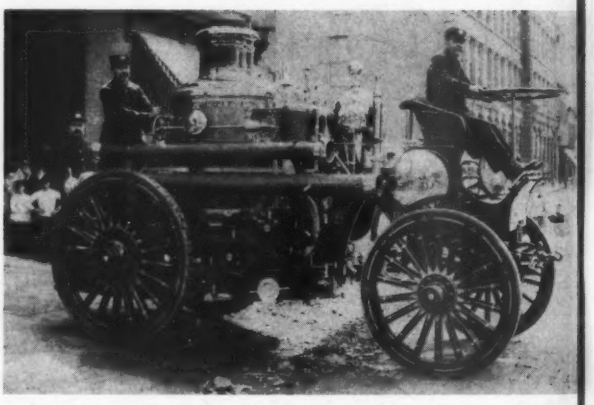
Double Ahrens engine—noted for their quick steaming characteristics possible with their flash boilers



LaFrance rotary engine—a comparatively late starter, the company expanded and also built piston pumpers

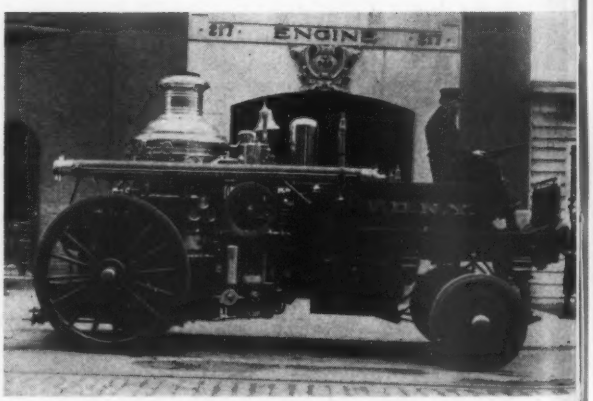


Heavy artillery of Boston was Engine 38—an extra-first size Amoskeag self-propeller; it won wide publicity



Hartford's famous "Jumbo" self-propeller—later converted to gasoline engine driven, remaining in service until 1929

"Columbian" combination steamer and hose carrier—first single piece engine company in America, had a crew of six



Nott extra-first size with couple-gear tractor—was accepted by the New York Fire Department

on the subject of steam fire engines. It cannot be denied that steam engines possess power not possessed by hand apparatus, but the necessity of their use in this city is a question which time alone can determine. The steam fire engines now owned by the city, if permitted to discharge water at every fire, would entail more damage by that element than the one it is sought to subdue. The City of New York is protected by a volunteer fire department unequalled in the world. The introduction of steam fire engines would embarrass seriously the volunteer system."

The attitude of the volunteers of the period was further expressed by Harry Howard's successor, Chief Engineer John Decker, who wrote in his report for 1860: "There is no doubt but that these engines, at large fires, are of service as an auxiliary to the hand engines; but, in my judgment, they can never take the place of the hand apparatus."

In spite of this opposition, when the paid Metropolitan Fire Department took over in 1865, 32 hand-drawn and one self-propelled steam fire engines were in service in the volunteer engine companies of New York, paid engineers being employed by the companies which used the steamers.

History recounts that the proposed change to a full-paid system was bitterly opposed and strenuously fought in the Legislature and courts, but the objections to the move to "professionalize" the department could not be stopped any more than the inroads of the mechanically operated engines!

The steam fire engines, drawn by horses, and manned by professional firemen, were firmly established and were here to stay throughout the coming 50 years, which might well be termed the colorful, romantic era of the steamers.

The era of the steamers

In 1867, two of the New York Commissioners made an inspection trip as far west as Chicago and reported on the systems and apparatus used in a number of cities. They found Amoskeag steamers in service in Boston; Cleveland had six rotary-type Silsby steam fire engines; the five Detroit engines were Amoskeags; Cincinnati had eleven steamers, ten of them of the Latta type, built in Cincinnati. Three of these were self-propellers and eight were drawn by horses—four to the machine.

Chicago had fourteen steamers, both Amoskeag and Silsby make. It was noted that the Amoskeags in the "outer districts" of that city were drawn by four horses. In Baltimore, there were seven steam engines, two built in Philadelphia by Reanie & Neafie, and the others manufactured locally by Poole & Hunt. The report of the Commissioners stated that in Baltimore "the engineer alone rides the engine, the driver the nigh horse."

Had the committee traveled farther west, they would have found a paid department in the thriving city of St. Louis, whose steamers were bought in Cincinnati from Latta, and from Lane & Bodley, successors to Latta.

Of the eighteen builders who started in the steam fire engine busines in the 1850's only Silsby and Amoskeag made a success of their venture. Some of the others gave up after constructing only one engine.

In their Annual Report for 1865, New York's Metropolitan Commissioners stated they had "adopted the steam fire engine manufactured by Amoskeag Manufacturing Company of Manchester, N. H., as meeting the requirements of this department in simplicity of construction, uniformity in manufacture and durability in service. A contract has been made with that corporation for 15 engines, of which five have been delivered and thoroughly tested to the satisfaction of the department."

By this report, the Metropolitan Board wrote the death warrant for most of the concerns that were then struggling for a foothold in the new industry. Of the manufacturers then in existence only two, besides Silsby and Amoskeag, which have already been mentioned, finally found a place in the sun. These were Clapp & Jones, of Hudson, N. Y., and Button Fire Engine Works, of Waterford, N. Y., each established in 1862.

The first builder to make a commercial and financial success as producer of steam fire engines was the A. B. and E. Latta Company. Through a direct line of successors the Latta Company is still represented in the fire apparatus field by American-LaFrance Corporation. Started in 1852, the Latta Company sold out to Lane & Bodley in 1863. The firm's superintendent was Chris Ahrens, who took over the busines in 1868 and established the Ahrens Manufacturing Company. In 1891 Ahrens combined with Silsby, Clapp and Jones, and Button Fire Engine Works to form the American Fire Engine Company, of Seneca Falls, N. Y., and Cincinnati, Ohio.

At the time of this merger, Mr. Charles H. Fox, a son-in-law of Chris Ahrens and former assistant chief of the Cincinnati Fire Department, was superintendent of the Ahrens plant on Webster Street, opposite Engine Company 7, where he had been stationed when engineer of steamer in the Cincinnati Fire Department. Mr. Fox was selected as superintendent of the new American Fire Engine Company and went to Seneca Falls to combine the operations of the Silsby, Clapp & Jones and Button plants.

The steamers first built by Latta were of a combination self-propelled and horse-drawn type. Four horses were used, with the driver riding one of the lead horses. After sufficient steam was generated, the engineer would open the throttle and give the teams an "assist" on the steep grades of downtown Cincinnati. A feature of the Latta machine was the three-wheel design which facilitated the steering of the ponderous 22,000-pound units. As an interesting comparison, many railroad locomotives of the period were no heavier than the Latta fire engines.

Lane and Bodley continued the Latta design but lightened the machine and eliminated the self-propelling feature. While supervising the building of steamers for Lane and Bodley, Chris Ahrens worked out a design which he adopted after taking over the business in 1868. His product resembled in general appearance the engines then being built by Amoskeag. These, it may be said, set the pattern for all future steam fire engines.

Ahrens had a feature

A distinctive feature of the Ahrens engine was the circulating water tube boiler. A small auxiliary pump at the right of the boiler could be hand-operated by the engineer until a head of steam had been raised, when the valve would be opened to admit steam into the cylinder of the circulating pump. An engine company near the author's home when he was a very young lad had an Ahrens steamer and his first impression of this fascinating machine was of the engineer manhandling the pump rod back and forth when the steamer left the station and passed his house. For a long time the author thought that the engineer was helping the horses propel the engine.

Ahrens boilers were exceptionally quick steamers but practically all makes could develop enough pressure in five or six minutes from cold water to start the pumps. Most fire departments kept the steamers connected to circulating water heaters when standing in the stations. These heaters were automatically disconnected when the engines moved. This writer remembers the Sunday morning drills when time would be taken from the first tap of the gong which released the horses, and with the men in the bunk room. Hitching, reaching the nearest hydrant, connecting, stretching six lengths of hose and showing water at the nozzle were a matter of as few as 80 seconds. In 1899, nine Chicago engine companies had official records of under two minutes. The flash boilers, starting with boiling water, had enough steam to begin pumping as quickly as hose connections were made at the hydrant.

The Ahrens Company continued as a leading contender in the fierce competition of the fire engine field until the merger of several manufacturers in what became the new American Fire Engine Company, in 1891. Mr. Chris Ahrens was one of the promoters of this consolidation. During the 23 years the Ahrens Company had been in separate existence following the taking over of Lane & Bodley, the firm had built more than 700 steamers.

Amoskeag dates from 1859

Amoskeag Manufacturing Company began the building of steam fire engines at their Manchester plant in 1859. Their first engines were of the "mongrel" type, with two steam pistons driving a rotary pump. After building 11 of the "mongrels" the company switched to the single pump piston type; immediately thereafter it developed the double-piston double-pump model. However it continued to furnish both the single and double engine models, depending upon the preference of the purchasers.

The Amoskeag steamers were hand-

Continued on page 560

Winnetka Fire Department aerial with fog ladder pipe in operation on east end of building. When fire gained in intensity and threatened laundry exposure (far right) the nozzle was operated through windows on second floor —*U. S. Navy Photo*

Navy-Civilian Cooperation Features "Operation 95" at Great Lakes

Four day "training by doing" session provides Northeast Illinois fire fighters with wide range of fire problems

By ROD A. PORTER

THE U. S. NAVY has been responsible for a training project which may be recorded as a milestone in fire service progress. Over a four-day period "Operation 95," conducted at the Naval Training Center, Great Lakes, Illinois, afforded a wide variety of fire problems to the more than 450 volunteer and paid Northeastern Illinois, municipal, governmental and industrial fire fighters who participated.

The actual conduct of the project was under the direction of Great Lakes Fire Chief LeRoy H. Ellis and Harry Wolff, field officer for the Western Actuarial Bureau, Chicago. Facilities and conveniences were provided by Captain A. C. Burrows, USN, Commander, Training Center; Captain W. H. Harmon, USN, Assistant Commander; and Captain J. F. Harper, USN, Commanding Officer, Administrative Command.

Because of the magnitude of the operation and in order to realize the maximum value from practical fire fighting training possible in an operation of this scope, the events were scheduled over a period of four days, the two weekends of September 22-23 and 29-30 last.

Project named for building

The World War I era structure designated as "Building 95," from which the project derived its name, was of heavy mill construction, 232 x 100 feet, with three floors. Twenty-seven rooms, varying in size from 8 x 12 feet to single areas of 9,000 square feet provided fire fighters with a wide variety of structural fire problems. There were also large unenclosed elevator shaft; open stairways; long corridors; tightly confined rooms and large open areas.

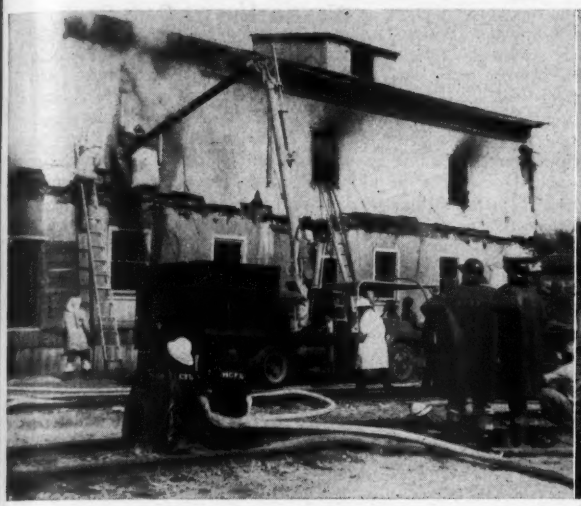
A substandard fire wall divided east and west halves of the building. Walls insulated with both cork and sawdust; double floor construction; partitions of metal lath and plaster, wood lath and plaster, plywood and plasterboard; and flooring ranging from 1 x 4-inch rough to 3-inch hardwood with overlays of asphalt and tile, presented many and varied fire problems for the "students."

A severe exposure existed on the east, consisting of a laundry building of ordinary construction. This was located less than 20 feet from the wooden warehouse. Installed in the brick wall on the exposed side were 315 glass panels, 10 x 14 inches, in metal frames. Other structures in the vicinity were generally large, of wartime frame construction, some with tarpaper roofs, although none was in close proximity to "95." Weather during the two-weekend affair was generally fair and cool, with winds usually brisk and changeable.

Variety of equipment used

Motor fire apparatus included virtually all types of equipment currently in service, from 1,000 gpm pumping engines to aerial ladders—quads and quints. Fire hose utilized varied from ¾ and 1-inch conventional and high pressure fog lines, to 3-inch water tower lines of aerials and turret nozzles. Fog guns, including the new 1,000 gpm "Jumbos," were used on the many fires kindled. Ladders varied from 10-foot "attic" models to 100-foot tractor aerial "stick," both metal and wood. Breathing apparatus included demand air, self-contained, Navy OBA and "all-purpose" canister models. Ample opportunities were afforded to use and test the effectiveness of each type. Nearly every forcible entry tool "in the book" was utilized under actual fire conditions. Even salvage covers were employed in the operation for the preservation of property exposed to water spray.

The various evolutions performed over the period included the laying of large and small (straight and reverse) hose lines, with apparatus and manually. Weak



Fire fighters take line aloft in bucket of aerial hoist furnished by the Village of Winnetka. Hoist was used for moving personnel and equipment.—*Photo by U. S. Firemen's Equipment Co.*

Large caliber fog nozzle used for water curtain on west half of warehouse. A sudden wind shift threatened nearby exposures as the fire grew in intensity—*U. S. Navy Photo*

master streams were fortified by siamesing lines, using 3-inch hose and altering tips. Large lines were wyed into smaller ones for maneuverability and overhauling. Practical methods and procedures were severely tested.

Unscheduled collapse

It was planned to arrange 22 fires over the two weekends in such a manner that most problems of fire fighting could be faced by the participants. It was apparent on the first day that the schedule would have to be revised and a final total of 13 fires were ignited. The east half of the building was destroyed during the first weekend and the remaining portion on the final day.

The training received in the protection of exposures will undoubtedly contribute to loss reductions in future fire emergencies in Northeastern Illinois. The burning of the east half of the warehouse on Sunday, September 23, indicates the severity of the operations. One end of this building was 20 feet from the aforementioned laundry. The wind changed shortly after ignition of the west end of the section and reached a velocity of 34 mph, blowing toward the exposure. Utilizing one large calibre ladder pipe fog nozzle at a low angle and three similar nozzles in pipe holders, not one pane of glass was broken until the unexpected collapse of the fire escape and wall which broke 58 panes and afforded the Great Lakes department a challenging salvage problem which was quickly and efficiently solved. The "loss" was $137 in glass replacement. No water damage occurred and the laundry was operating "as usual" in the morning.

Broad training possible

Extensive laddering was resorted to at various stages of the fires. The preladdering of several windows on the downwind side of one major blaze almost resulted in their loss as hose lines had been tied into them and fire spread with unanticipated rapidity. Employing protective hand lines, and at considerable risk, these ladders were successfully retrieved.

A lesson in fire behavior in concealed spaces was vividly demonstrated on the initial day of the test when fire, ignited in a 30 x 100 foot shed believed to be separately built from the main 3-story structure, blossomed out in the second and third stories of the latter. It was brought under control only by a heavy concentration of manpower and multiple stream devices including an aerial ladder pipe. This detail of the operation provided all the thrills and anxieties that are encountered under similar conditions on the fire ground.

Pump operators had a field day. Operations included use of heavy stream appliances, an uncommon evolution for most small fire departments, but one which requires experience and know-how in advance of emergencies if it is to be successful. Tandem and relay pumping layouts were provided as well as two pumpers operating from a single hydrant in a demonstration and test of the practicability of "doubling up" at a plug.

These evolutions broadened the experience of the participants and gave all an opportunity to view and judge for themselves the value of such procedures.

To make matters even more realistic, one of the two pumpers supplying a 1000-gpm fog nozzle developed motor trouble. Experience was gained in the problem of replacing an ailing machine at a hydrant when every gallon was needed, and every second of delay was a serious matter.

A lesson of prime importance to all

Artificial rainstorm created by fire fighters on final day as test to contain flying brands and heat wave as west half of building is permitted to burn. This phase of the operation was pronounced a complete success—*U. S. Navy Photo*

Fire fighter overcome by smoke during initial fire test is given oxygen by Great Lakes mates. The value of safety regulations and equipment was graphically demonstrated during the test operation—*U. S. Navy Photo*

fire fighters was the wearing of adequate personal protection apparel. A mandatory regulation in effect in many departments requires wearing the standard helmet while fighting fire. A falling timber "beaned" a Great Lakes fire fighter, but the trusty helmet saved him from injury. Men who failed to wear protective gloves discovered that they were receiving minor injuries on their hands.

At one point in the first day's operations, a fast burning blaze trapped two fire fighters who had forgotten the basic rule "never leave your line" and became lost in smoke. Ladders were hurriedly placed and rescue teams entered the second floor where one man was found overcome and the other less seriously affected. Both were given oxygen by rescue personnel at the scene and one was hospitalized for a brief period. The value of actually using breathing apparatus under conditions cannot be overestimated. The confidence gained by those operating with this equipment cannot help but prove valuable in future work. The incident was also an inspiration to those who observed the results.

The value of knowing something about the chemistry of fire and the capacity of fog to absorb heat was demonstrated time and time again as brief bursts from fog lines cooled mounting temperatures within the rooms of the test buildings and enabled men to work their way into smoke-laden spaces. During the interval of the final burn-down on September 30, the value of large volume fog nozzles, was graphically demonstrated. The white hot interior sent a blistering heat wave toward the hose crews who cooled flying brands and heat completely with these devices. The Brothers had their choice of a hot or cold shower at the time, but no one gave ground and paid and volunteer men bore their torment with fortitude.

It would be impossible to place a value on the benefits derived from "Operation 95" by those who took part in this big-time fire service feature. It can be said however that few if any other men in our profession have ever been exposed to as many varied, realistic fire problems in so brief a span, each one as an active participant.

The Department of the Navy deserves great credit for initiating a project of this magnitude and seeing it through to a successful conclusion.

The training opportunities and practical experience gained by the 484 Northeastern Illinois fire fighters participating in the four-day tests, had never been available to them previously. The scores of enthusiastic letters and comments received by the Navy officials at Great Lakes and by the Western Actuarial Bureau revealed not only sincere expressions of gratitude for the unusual training afforded, but also demonstrated the desire of the participants for future opportunities of this kind. □□

Chief L. H. Ellis of Great Lakes Naval Training Center checks on exposure protection for building 20 feet from fire operation. Collapse of warehouse wall and fire escape broke windows in laundry but further damage was prevented—*U. S. Navy Photo*

Dissension at Oak Park

According to press reports dissension is brewing in the Oak Park, Mich., Public Safety Department. A five-man committee of public safety officers has announced that it is demanding pay increases, shorter working hours, longer vacations and other benefits. Spokesmen for the committee said that if these conditions are not met then they will demand that the city abolish its integrated force and revert to separate police and fire departments.

The men said that much of the dissension is being caused by "general dissatisfaction with the system." Other causes cited included: That the city has failed to fulfill a promise to bring officers "up to or higher" than any city in the Detroit area if they agreed to integration; that pay raises are given on the basis of the number of tickets issued, the officers appearance and the number of arrests made; that only 19 of the 54 patrolmen are being paid the maximum salary although many more are eligible; that the department's director, Glenford S. Leonard, is "pushing the men too hard" and is "running the force like a military unit."

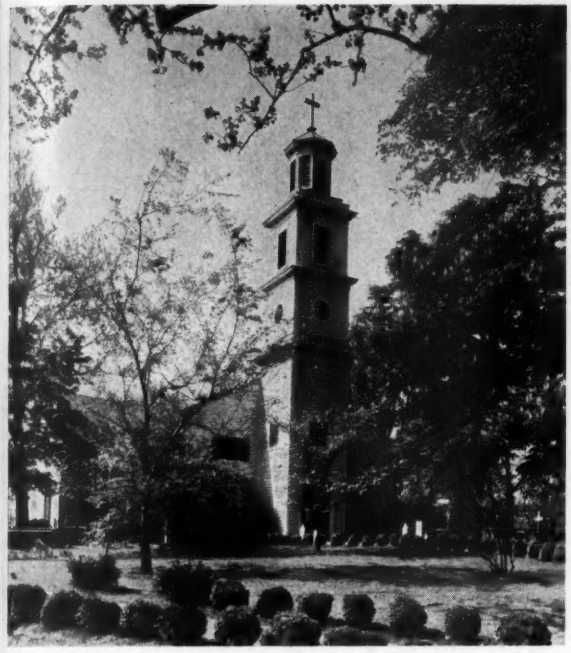
Additional complaints were: That burglaries and break-ins are increasing because officers are forced to patrol main streets in order to "make their quota of tickets" (they did not state what the quota is); that the system demands too much of the men. "We get dirty and wet at fires, then we're expected to look presentable when we return to police duty even though there are no facilities for cleaning up at the police station," the spokesmen asserted. They also declared "the people are being hoodwinked into believing" the system is working.

"The city council approved spending $100 recently to send residents copies of a magazine article praising the system. But the council ignored a critical report written by a number of Canadian fire chiefs, which appeared in the International Fire Fighters Magazine," they said.

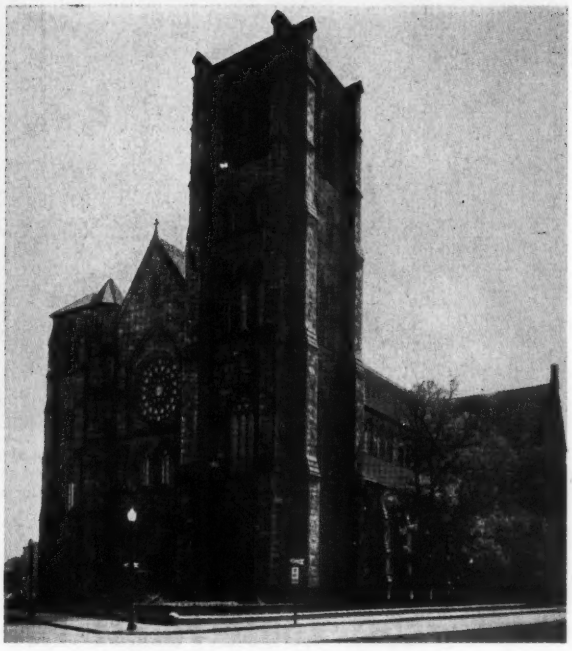
Director Leonard said he was unaware of any dissension. The committee, composed of a lieutenant, a sergeant and three patrolmen presented their pay and benefit demands to him but gave no hint of dissatisfaction, Leonard said. When asked about the ticket quota, Leonard declared, "This is news to me. I've never set one and as far as I know, no one in the department has. Pay raises are not geared to this and, despite the reports, all but a few men are being paid the three-year salary maximum."

The committee spokesmen said they would ask that salaries be increased at least $250 a year for all members of the department, that the work week be reduced from 42 to 40 hours and that vacations be lengthened from 14 to 24 days. Also included is the demand that the city pay half of the cost of the department's hospital insurance program.

The spokesmen said that the city manager has informed them they could take their demands to the city council if they were unable to reach a satisfactory solution with him. "We're prepared to take this issue before the people if necessary," they added.



St. John's Church, Richmond, Va.



Cathedral of the Holy Cross, Boston, Mass.

Churches Installing Fire Detection Systems

FROM THE EVIDENCE available, it would appear that the nation's church leaders, heeding the grim lesson of last year's record $14,000,000 fire loss in this category are taking positive action to halt this needless fire waste which the editors of FIRE ENGINEERING have termed "a calamity and a disgrace" (February, 1957). It is encouraging to report that according to the American District Telegraph Company, more than 16 churches, mostly in the northeast, where fire losses have been heaviest, have arranged for installation of automatic detection systems since the beginning of the year; negotiations now under way are expected to result in numerous additional installations.

Church officials are much more aware of fire hazards and possibilities of large losses in churches than formerly. Archbishop John O'Hara recently urged all churches in the Philadelphia archdiocese to evaluate and improve protection measures wherever possible.* A similar recommendation made by Archbishop Cushing of the Boston archdiocese led to installation of automatic detection systems in the Catherdral of The Holy Cross and several other churches in the area.

Evidence shows that architects are beginning to provide better fire safety in the design of new churches. In addition to correcting as many structural defects as possible, they are encouraging the use of better fire protection facilities. The Sacred Heart Church, now being built in Houston, is to be safeguarded by automatic fire alarm. Automatic sprinklers, supplemented by automatic fire alarm for unsprinklered areas, will protect the new Travis Park Methodist Church in San Antonio.

Older churches that have contracted for automatic protection in recent months include the magnificent Riverside Church in New York City, historic Grace Church in Jamaica, N. Y., and the famous St. John's Church in Richmond, Va. Riverside Church will be protected by central station-supervised automatic sprinklers supplemented by the latest rate-of-temperature rise detection system for unsprinklered portions of the building. Grace Church, St. John's and most of the other churches recently protected have automatic fire alarm.

* The Archbishop had reprints of FIRE ENGINEERING's editorial of February 1957 sent over his name to every parish in the archdiocese.

Connecticut Chief Upheld in Dispute

Following six days of a series of hearings which started on March 27 on charges of "incompetence, inefficiency and inability to properly administer the Fire Department, brought by 37 members of the Stratford, Conn., Fire Department against Chief Theodore S. Lockwood, Town Manager Harry B. Flood rendered a decision on April 12 that he had found "insufficient evidence to warrant the removal of Chief Lockwood from office."

The firemen had testified that the 57-year-old chief had abused them, used profane language, did not have a formal training program, used the manpower in a manner detrimental to the welfare of the men and the town, failed to support his men in their plea for double pay increments, and did not seek sufficient manpower for the department.

In his decision, Town Manager Flood, commenting on the manpower situation, accepted part of the blame for himself, pointing out that Chief Lockwood had each year asked for additional manpower, but that he had in the final preparation of the budget seen fit to decrease the requests. He said that this could not be blamed on the chief.

"I can only hope that as time goes on the fire department will profit by these hearings to the mutual advantage of the men serving it, their officers and all the citizens of Stratford," Mr. Flood wrote in his decision.

Judge Raymond B. Ruebens, counsel for the 37 fire fighters, commenting on Mr. Flood's decision, said, "While I am disappointed with the finding therein contained, I feel that a great amount of good has been accomplished. I only hope that as time goes on the fire department will profit from these hearings."

Chief Lockwood has been a member of the Stratford Fire Department for the past 32 years. He was appointed chief March 1, 1951. When called to testify, Chief Lockwood defended his position and all the orders he had given while head of the department. His counsel was Town Attorney Raymond W. Ganim.

—Tom Magner

Left: "Brushbreaker" pumper supplies hand lines in an attempt to stop advancing flames in Myles Standish State Forest. The Plymouth-Carver area was the hardest hit during the recent forest fires and prompted declaration of emergency in Massachusetts. **Right:** Army personnel race to reinforce fire line and relieve exhausted firemen battling Plymouth-Carver blaze on a 10-mile front. National Guard, Navy and Air Force personnel also assisted in the long siege

East Coast Forest Fires Wreak Spring Havoc

New England States hardest hit as nearly 75,000 acres of tinder-dry woodlands are consumed

APRIL SHOWERS are supposed to bring May flowers, if the words of a once popular song are believed. The lack of the same showers brought grief to many property owners and residents, as well as to the fire service of the East Coast states stretching from Pennsylvania to Maine during the first ten days of May. Forestry officials had been hoping that the tinder-dry woodlands would receive some relief during the last week of April, but the weather remained clear and the humidity dropped well into the danger zone.

The month of May opened with no rain in sight and very windy. On the first two days two serious brush fires, one each in New York and New Jersey, gave hint of the holocaust yet to come. Before the next ten days had passed, the governors of six states had closed all forest lands to any use and banned the starting of outdoor fires. During the period, over 25,000 men struggled to control thousands of fires that eventually razed nearly 75,000 acres of timber and brush lands.

NEW YORK

The ordeal began shortly after noon on May 1 in the Holbrook-Lake Ronkonkoma-Lakeland area of Suffolk County on Long Island. Fire erupted in scrub oak and pine in the vicinity of MacArthur Airport and raged out of control until 8:30 p.m. the same evening. More than 8,000 acres were burned over and 200 residents were evacuated from their homes. At the height of the blaze 23 fire departments with over 200 pieces of equipment were in operation. High winds of 35-mph average velocity with gusts of up to 55-mph hampered the efforts of the firemen to control the fire. At one point the gasoline storage tanks of MacArthur Airport were threatened. Lakeland firemen stood with their backs to the tanks and fought off the fire with a bucket brigade and shovels. The flames were stopped less than 40 feet from the target hazard.

At the time of the major blaze, the nearby Central Islip Fire Department was called to extinguish 14 separate brush fires in their district.

The Long Island ordeal lasted until May 2. By that time, 11,000 acres of land had been burned over; five residences had been razed and 25 homes suffered heavy damage. The efforts of the firemen were successful in saving 200 homes that had been threatened, although a score of fire trucks were seared by the great heat. Of the more than 1,000 firemen in operation, only 12 were treated for smoke poisoning. The fires still smouldered the next day, but 100 fire guards kept them under close surveillance. Arson was suspected as the cause of the main blaze as well as many of the smaller fires.

NEW JERSEY

At about the same time the Long Island fires occurred, a blaze in the vicinity of Bamber Lake, N. J., was reported. Winds, measuring up to 35 mph, quickly fanned this fire into major proportions and before it was brought under control, it had destroyed about 7,000 acres of pine and brush.

The fire advanced on a five-mile front, jumped the Garden State Parkway, which was closed for several hours, and threatened the summer resort community of Barnegat Pines. A tuberculosis sanitarium near Farmingdale was threatened and 200 children patients were evacuated to safety. A fortunate change in the wind saved the area as 14 fire departments assisting the state foresters struggled against the wall of flames.

A state forestry service apparatus was destroyed in this fire. The crew had been engaged in setting a backfire. When all preparations were completed, the men raced to their vehicle and the engine stalled. It was necessary to abandon the apparatus in the face of flames closing in on the men from two directions.

CONNECTICUT

Firemen and state foresters kept a close watch on the woodlands and were successful in preventing a major blaze from developing. The most serious threat existed in the Niantic area on May 10. At one time five fire departments were mobilized to control a fire in the Old Lyme area. The Old Lyme fire station was seriously threatened, but firemen set up a water curtain over and around the building and the flames raced by without harm to the structure.

VERMONT

North of Lunenberg, 250 firemen, National Guardsmen and high school pupils fought to contain a 1,000-acre fire on Hawkes Mountain. The fire had begun on May 7 and by May 9 threatened to sweep into 700 square miles of timberland. On May 10 it was reported that in addition to the Lunenberg fire, there were major blazes in Barton, Peacham, Lyndonville and Kirby.

NEW HAMPSHIRE

On May 10, fire fighters near Pembroke brought a serious blaze under control, but not before it had destroyed three cottages. Firemen and volunteers from 12 communities fought the blaze that had advanced on a one-mile front.

Near Hollis, an arsonist set 12 brush fires that menaced the town before firemen could bring them under control.

MAINE

On May 8, a 3,200-acre fire near Jackman isolated a camp owner and his wife on a remote point at Long Pond. The fire was burning on a one-and-a-half-mile strip front and 50 men with six bulldozers were struggling to control it.

When the access road to the camp was cut off by fire, the forestry department sent an airplane and a boat with men to assist in fighting the blaze and rescue the people if necessary.

At Peaks Island, several homes and an unused Army barracks were destroyed; at West Lubec two dwellings and a general store were burned; at Wellington a 1,000-acre fire destroyed an entire farm and at Hartland 100 men with earth-moving equipment dug a fire break to stop advancing flames.

The West Kennebunk area of Maine was the hardest hit. Up to May 10, fire had consumed nearly 10,000 acres of timber along with 35 buildings of which 15 were homes. The state CD headquarters at Augusta deployed 500 men and 30 fire companies to control the fire. About 5,000 of the acres in this fire were the same ground that had been the scene of the serious 1947 burn.

York County at the southern end of the Maine Turnpike near Mousam also was seriously hit. Over 1,500 men were engaged in fighting a major blaze in this area. Help was sent in from Portland, South Portland, Kittery and from Portsmouth and Dover, N. H.

MASSACHUSETTS

The State of Massachusetts took the brunt of the spring rampage. Beginning on May 1 and continuing until May 10, an army of more than 20,000 firemen, National Guardsmen, Army, Air Force, Navy, Public Works, Forestry Service and police personnel fought to control more than 25,000 acres of burning woodlands.

In the hardest hit area, that of Carver-Plymouth, more than 20,000 acres were burned over. The Myles Standish State Forest covers an area of 12,000 acres, but after the fire was brought under control, only 200 acres of timber was left untouched.

More than 2,500 men from 64 communities were mobilized to fight the fire. On May 9 the fire had been checked after destroying 50 buildings. However, on the morning of May 10, the flames again leaped out of control and 700 residents prepared to evacuate the area.

The Boston Fire Department sent seven ranking officers to the area to assist in the fight and assembled 10 pumpers and 30 men to stand by for a possible call for assistance. In the Long Pond area, six fire departments used a water curtain over 30 homes and saved them from the flames. In the Beaver Dam area, a 10-mile backfire was contemplated along a highway and a fortunate shift in the wind allowed the operation to be used successfully. Along State Highway 3 on a three-mile front, 150 fire companies fought the blaze to a standstill.

At one point in the fire, the flames crept to within 200 yards of the Jordan Hospital. The 51 patients in the hospital were prepared for evacuation as inmates of the Plymouth County Jail were brought up to reinforce the harrassed firemen, whose operations were being coordinated by a county-owned spotting plane. Because of the shortage of ambulances, automobiles with ski racks were brought in and stretchers were affixed to them for possible emergency use. Fortunately the flames were subdued and the evacuation was not required. The Plymouth emergency was concluded at 8:39 p.m. on May 10 when rain began to fall, ending the siege.

The Red Cross assigned two mobile canteens and six station wagons to the Plymouth zone to feed the fire fighters. At the same time they cared for 100 homeless persons who were driven out by the onrushing fire.

On May 8, an Air Force jet fighter crashed near Otis Air Force Base on Cape Cod, killing the pilot and starting a fire that destroyed 1,500 acres of woodland. More than 1,000 men from 11 communities and the Air Base fought the flames. Operations of the men and the 30 pieces of fire apparatus were directed from the air by the Barnstable County Fire Control plane.

At Athol, two fires moving on a four-mile front threatened the South Athol-New Salem area before being controlled. More than 500 firemen and volunteers fought the blaze. The fire units from 11 surrounding communities were controlled by radio from the Tri-State Mutual Aid headquarters at Greenfield, Mass.

At one point during the fire, a Turner Falls company was surrounded and trapped. The men were saved when the driver of the apparatus drove it down a 75-foot bank into a pond. A wrecker later pulled the pumper out of the pond. The only loss was several hundred feet of hose destroyed by the flames.

In the Boylston-Shrewsbury area, 303 pupils were evacuated from the elementary school as flames reached within one-half mile of the school grounds. The building was saved when a sudden shift of the wind allowed fire fighters to bring the blaze under control.

Near Manchester, 500 men were required to control a threatening blaze that burned the roofs from five houses. Again a sudden shift in the winds providentially saved many more homes.

Near Montague and Millers Falls, 2,000 acres were burned over and firemen subdued the blaze after a 48-hour fight.

Emergencies declared

The situation that existed from May 1 to May 10 caused untold millions of dollars damage. The governors of New York, Connecticut, Massachusetts, Vermont, New Hampshire, Rhode Island and Maine closed all public forest lands and ordered that no fires be started in the open. Hard-hit Massachusetts estimated the loss at over $10,000,000. Governor Furcolo stated that he planned to ask the state legislature for an emergency fund of $3 million in order to assist communities and individuals who sustained losses as a result of the fire. At one time during the long Massachusetts fight, 86 separate fires were burning, 19 of them major forest fires.

In New York, Governor Harriman closed all woodlands on May 3 and prohibited the unnecessary use of all lands and the burning of any material outdoors on May 10. During the period, 1,026 separate fires were reported with 15,000 acres burned over and losses estimated at $250,000.

New Jersey reported 100 fires, 15,000 acres burned over and estimated its losses at $250,000. Pennsylvania reported that over 2,000 acres had been burned.

In Rhode Island, Governor Roberts requested all fire departments to place themselves on a stand-by basis especially those near the Massachusetts border.

The rain that fell on May 10 and 11 brought the raging infernos to a halt and provided respite for the exhausted fire crews. Forestry officials continued to view the situation with apprehension and expected the danger period to continue until sufficient rain had fallen to drench the forest floors.

Many "set fires"

The one disturbing element common throughout the emergencies in all states was the number of "set fires." In too many instances while firemen were engaged with serious fires, arsonists were at work starting new blazes. The threat from this source continued through the entire 10-day period.

During the struggle, the many mutual aid and disaster plans of the eastern states were severely tested. From the amount of praise that was heaped on the fire fighters and their volunteer helpers from all walks of life, it would appear that present planning is sound and capable of being quickly activated. The lessons learned from this severe test should produce even better results in future emergencies. □□

By ROI B. WOOLLEY

PART XXIV (Continued)

Removability . . . Combustibility . . . Damageability

Coffee: Coffee is packed by jobbers in many different kinds of packages. Expensive coffee for retail often comes packed in tins, which is intended to retain the flavor; this package is waterproof. Other grades for retail are packed in cardboard packages and paper bags, which offer little protection to the contents. For the wholesale trade coffee is packed in burlap bags. Roasted coffee is more susceptible to water damage than green coffee. Green coffee may be wet without damage, if it is dried and roasted within a reasonable period of time. Roasted coffee will quickly mildew and is worthless in this condition. Coffee is a commodity frequently subjected to fire and water damage due to the fact that the majority of jobbers do roasting and this process presents a serious fire hazard with resultant numerous fires.

Roasted coffee for retail should be packed in tins, or in bags lined with waterproofed paper. A waterproofed inner lining should be provided for burlap bags intended for roasted coffee.

Colored Materials: Colored materials are peculiar in some of their characteristics. Many of the colored wash fabrics will not run when washed because they are carefully rinsed and dried. However, if water-damaged and allowed to stand in this condition, colors will spread.

Embroideries may have a brownish cast which is sometimes attributed to smoke and water stain, but often is the result of age. Embroideries stained by water will have an uneven color.

While materials intended to be washed are sometimes assumed immune to water damage, there is always the danger of mildew, and all material that is wet should be thoroughly dried.

Corsets, Suspenders and Garters: This class of stock in the cheaper grades is particularly susceptible to water damage because of the use of steel for frames, buckles and clasps. These may have a light tin wash which offers little or no protection against rust which injures the fabric, usually of delicate shades. In the better grades, non-ferrous metals or stainless steel are used which may be heavily plated. There is a growing tendency to get away from metals as much as possible by using plastics similar to bakelite.

Any girdle or foundation garment containing rubber will be badly damaged, as extreme heat will take the life out of rubber.

Cotton: Damage to cotton in bales depends upon the density of the bale. High density bales such as Egyptian cotton burn very slowly and with very little penetration by fire or water. Fire may burrow into the standard bale and water may penetrate a few inches. Loose pressed or gin bales suffer the greatest damage. So-called "wet water" may be used to advantage on some cotton bale fires.

Slightly damaged bales can be stripped of burned or stained cotton without cutting the bands. After making sure that all fire is out in badly burned bales, the bands should be cut and the cotton picked out and separated into four grades —burned, stained, wet clean cotton and dry undamaged cotton. Clean separation should be made and great care exercised to keep char and burned cotton out of the other grades. Opened cotton can be handled in the same manner. Wet cotton can be air-dried or put through a dryer, the former method being preferable as the air-dried cotton is less stringy.

Yarn in various stages of manufacture will usually show very low salvage, if burned, because of the small units involved such as yarn on spindles, spools and bobbins. Rust stains are usually irremovable except where it is possible to strip off the damaged part; soot and smoke odor will all disappear in the finishing process.

Cotton cloth in the grey can usually be finished without permanent damage except where badly rust-stained. Mixtures of cotton and rayon suffer greater damage because rayon will not stand boiling treatment and dyes may take unevenly on goods which have been wet and dried out.

Damage to colored cottons depends largely on the fastness of the dyes used. Where large quantities are damaged, it is often possible to have colors removed and the cloth reprinted. Slightly wet rolls or bolts can usually be air-dried without danger of mildew. If badly wet, the cloth should be run through a dryer or entirely refinished according to which is more feasible.

Crockery and Stoneware: Aside from the labor of washing and drying, there should be no loss from water in this stock. Being opaque, smoke would have little or no effect on it. When packed in hay or straw which has become wet, the stock should be removed, dried and repacked in dry materials, where repacking is necessary. Where displayed on tables, breakage becomes a factor where heavy hose streams might be used or the stock is broken in attempting to lay waterproof covers. High piles of cartons containing this stock are liable to fall if the lower cartons become water-soaked.

Dyes: Most dyes damaged by water only may be salvaged if present in sufficient quantities to pay for doing so. Containers consisting of steel drums, heavy barrels, kegs and tins are practically watertight. Damage occurs in the dye storeroom in containers which have been opened and are in use. Most dyes, except those involving some added chemical to increase the solubility or emulsifying properties, may be dried out, reground and restandardized with a good salvage return. The lack of uniformity due to varying moisture content makes this action necessary.

All opened containers should be provided with metal covers similar to garbage pail covers, which project below the top at least two inches. The covers also help to prevent contamination while dyes are being handled during the ordinary course of business.

Electronic Equipment: The manufacture and extensive use of electronic equipment and devices such as radio, television and inter-communication equipment has developed into a thriving industry. The effect of heat, water and smoke on this sensitized equipment does considerable damage. Heat would cause the tube elements to warp, crack or burn out; smoke would cause considerable damage to tubes, connections and cabinets. The effect of water would create rust on metal parts and peeling of veneer cabinets. The effect of heat would have a serious result by causing soldered connections to melt; the plastic covering on wiring would melt if exposed to heat conditions thereby causing short circuits in equipment. When allowed to remain in a wet or partially wet wrapping, the varnish on cabinets would spot and glued parts would soften causing serious damage with small salvage possibilities. A wrapping of waterproof paper or cellulose covering would reduce losses to a great degree.

Electrotype Plates: Electrotype plates are subject to damage due to the slow formation of oxide of copper. Wet plates should be dipped in denatured alcohol and wiped off or dried in a current of air.

Enamel, Paint and Lacquer: Enamel, paints and lacquers damaged by fire or extinguishing agents such as water or foam can usually be reclaimed with good results. Under-coat and finishing-coat enamel values have been reclaimed to the extent of 65 to 96 per cent. In some cases the salvaged material has been used for first class work. In other cases a certain percentage of new material was added to the reclaimed. There is always an opportunity to use reclaimed material for cheaper grades of work. The best procedure in salvaging consists of agitating with water, settling, heating to about 215° F., centrifuging, and running through a paint mill. In some cases, neutralizing is necessary and the addition of tinting pigments and oil is advisable. Occasionally enamel contaminated by foam has been satisfactorily salvaged by skimming off the foam, settling, straining and filtering. Contrifuging is very successful with clear lacquer. In centrifuging colored lacquers, some of the pigment is thrown out and must be replaced.

Whenever possible, salvage should be undertaken by the original manufacturer of the material.

Fibres: The term "combustible fibres" covers cotton (including linters and cotton waste), sisal or henequen, ixtle, jute, hemp, tow, cocoa fibre, oakum, baled waste, kapok, Spanish moss and excelsior. These fibres are usually formed into bales and may be partly covered by burlap or other wrappings. Their hazardous characteristics are, according to the nature of the fibre, a high degree of combustibility, absorption of water, tendency of some fibres to swell, and the bursting of bales by burning of the confining ropes.

All such materials stored in the open should be enclosed in tarpaulins. In warehouses, bales should not be tiered or piled and should be separated into small units by aisles and clear spaces. Where bales must be tiered or piled, the stability of the pile is of great importance.

Bales should be grouped to permit covering with salvage covers. Cotton in bales gives a varying salvage dependent largely upon the quality of the cotton and the state of the market.

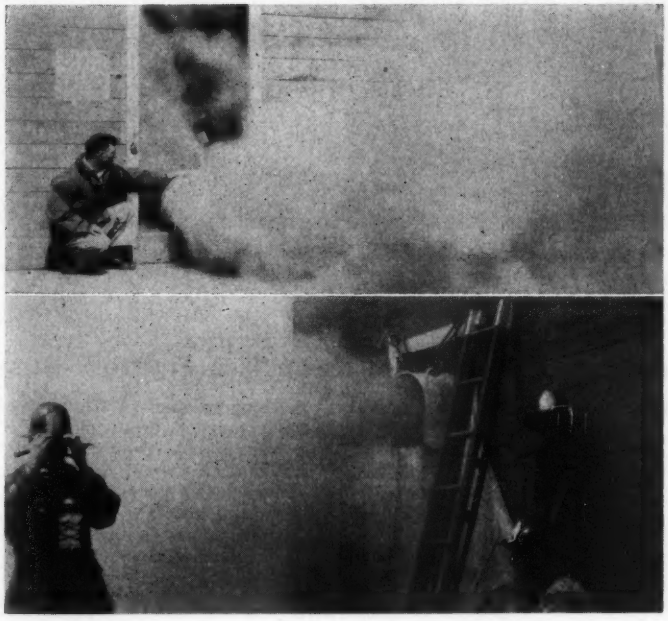
Floss and Down: Floss will mat if wet and articles stuffed with it usually suffer severely. Down and kapok can ordinarily be renovated.

Flour: Flour in barrels and bags presents a peculiar resistance to water. A barrel or bag of flour coming in contact with water will immediately form a thick paste on the side exposed, and this in turn, tends to prevent the water and smoke taint penetrating the entire barrel or bag. For this reason, a large salvage is often realized from such stocks. Skidding and covering the stock and keeping piles away from the side walls is recommended to facilitate salvage work.

Floor Lamps: A large stock of floor lamps, usually with shades attached, presents a serious problem in case of fire. The difficulty of spreading covers is apparent. The shades, many times, are very expensive and are all susceptible to heavy loss if spotted. Fortunately, there is an increased use of transparent cellulose wrappings for shades and this wrapping affords a fair amount of protection.

Only samples should be placed on display. The shades should be stored in cases and the stands wrapped and stacked in a manner convenient to cover.

Acknowledgment: This and following chapters are adapted from "The Sandards for Salvaging Operations," May 1954, of the National Fire Protection Association.



Case History No. 7

Subject of Study

Smoke Removal, fumes, etc., Fort Collins, Colo.

SALVAGE TRAINING in the modern fire department must include not only salvage from fire and smoke damage, but also prevention of loss through business interruption. There seems to be no end to the need for smoke ejectors in salvage work performed by the fire service.

In the salvage work of the Fort Collins, Colo., Fire Department, smoke removers have been used to dry and remove smoke odors from business firms of all types. The dollars saved in business interruptions have been of great public relations value to the department over the years, and the use of these devices has gone further. It has "salvaged life" itself.

Former Chief T. P. Treadwell of that department had the following comments: "We have used smoke ejectors to dry walls and remove smoke odors from countless numbers of homes and business establishments. Our training program has always included this important part of salvage practice and the results have been lower fire losses and better relations with the public." He submits the following case histories:

"1. We were called to the home of a polio patient confined to an iron lung. The electric refrigerator gas line had broken releasing sulfur dioxide gas. The house was very heavily charged and it was impossible to take the patient and the iron lung out without removing a window.

"We removed the refrigerator and put two smoke ejectors to work at once. Within five minutes the house was cleared and the doctor on the scene said that our department could take credit for saving the lady's life. The prompt removal of fumes also reduced property loss.

"2. We received a call to the plant of an ice cream and dairy company. Its ice cream parlor was full of customers. An ammonia pipe had broken and the place was filling with fumes.

"We placed salvage covers over a large opening between the plant and the retail ice cream bar and by use of three smoke ejectors removed the fumes. We plugged the leaking pipe and within twenty minutes the firm was in business again—selling ice cream at the tables. There was no fire, but it was a profitable salvage operation nevertheless."

Only major fire on first day of recent San Francisco earthquakes was a fourth alarm warehouse blaze. A heavy assignment of manpower and equipment was necessary to control the threatening fire in the old, partially demolished structure

San Francisco Tremors Keep Fire Fighters Busy

The San Francisco Bay area was subject March 22 last to its heaviest earthquakes since the shock and fire of 1906. Beginning at 8:17 a.m., the University of California seismograph recorded more than 50 shocks. Fortunately, although there was widespread fright and some hysteria, there were no persons killed and injuries were negligible, being mostly confined to cuts and bruises. Over 30 persons were hospitalized because of injuries.

The peak shock, with a magnitude of 5.5 in the Richter scale of measurement, came at 11:45 a.m. Thousands of persons poured out of buildings in San Francisco and suburban communities, while structures swayed, walls cracked and articles were swept from shelves in stores and homes. The tremor just before noon cracked several gas mains, but reportedly did little damage to the city's water system. Cracks in the 1,600,000-gallon reservoir however, forced evacuation of 400 women and children from the new Westlake district south of the city until the water was drained.

San Francisco fire fighters had a busy day. They answered 75 alarms turned in by panic-stricken residents, but reported that all but those for one fire were false or for trivial emergencies. The one major blaze, which developed into a four-alarmer in the Mission Street area in the late afternoon added to the agitation. This fire was attributed to the tremor and the flames destroyed a warehouse before they could be controlled. The structure involved was in process of demolition. The monetary loss was not disclosed.

Communications swamped

During the emergency growing out of the tremors, all city fire stations were kept manned and the fire force was prepared for any eventuality. The communications system carried a heavy load. So jammed was the telephone service that Mayor George Christopher went on the radio in the afternoon of the 22nd to plead with residents not to tie up their phones and prevent possible emergency use. At police headquarters, four telephone operators struggled with phone calls coming in at the rate of 1,000 an hour. Fire headquarters was almost loaded down, most of the calls being from frightened persons wanting to know when the next shock was coming—or what's the danger from fire.

In answer to questions why so many lines went dead, officials of the Pacific Telephone and Telegraph Co., said their lines could not handle the sudden jam of simultaneous calls. They explained that the dial system circuits were engineered to handle a normal volume at any given time, plus a margin for "insurance," but the overload was so great that most callers waited many minutes for a dial tone.

Disaster plan invoked

New earthquake shocks on the 23rd reportedly touched off a three-alarm apartment fire on Market street. Soon after this shock, at 12:13 a.m., residents reported an explosion in the 2100 block of Market street and flames shot up a light well of an apartment house at 2156 and a next door hotel at 2158. The fire burned through all three stories of the apartment building and caused damage to two other structures. Firemen, who were quickly on the job in force, brought the fire under control in short order as 50 persons fled the premises.

City officials invoked the city's disaster program. Fire Chief William F. Murray was in charge of fire protection, from his desk at the Hall of Justice, where the liaison and information center was established. Days-off of personnel were cancelled; inspectors of the utilities and water systems sped to check on the city's water mains, gas mains, sewer lines, etc. In the Westlake area the Daly City Fire Department turned off all gas for fear of leaks.

Chief Murray issued urgent instructions to all citizens for an emergency safety check of all dwellings and buildings in an effort to determine possible damage caused by the tremor. They were instructed to check gas service lines; inspect all gas-operated appliances for leaks and broken pipes; extinguish pilot lights on stoves, hot water heaters, etc., and inspect and check flues and chimneys for breakage. Citizens were advised what to do when hazards were found.

That the emergency was met and handled with dispatch by the municipal services was due to the preplanning and training in disaster control which all had undergone in previous years. □□

Integration Experiment

It has been recently announced that Engine 8 of the Winston-Salem, N. C., Fire Department will be organized as a fire-police patrol as an experiment in public safety service.

The company will consist of 14 men, eight with fire-police duties and six with assignments at the fire station. The complement of 14 men will provide four men on each shift; two of the men will remain at the station to respond with the apparatus to fire calls while the other two patrol the company district in a police car equipped with radio on the fire department frequency. At present 11 firemen and eight policemen perform the duties required in the area.

Selection of the eight fire-police patrolmen is to be made from among 11 firemen and one policeman who volunteered for the duty. Those selected will be given classroom and field training in law enforcement under police department direction. The fire captain in command of the company will also take the training.

Men on patrol will answer all fire calls in the company district. Upon arrival of the pumper, the four men will form a fire fighting team under command of the company officer.

The fire-police patrol will be under the command of the fire department during the trial period of six months. Upon completion of the period, the experiment will be evaluated to see if it warrants permanent installation.

Fire Goes To Sea

A recent magnesium shavings fire in a metal works at Broadway and 12th Street, Manhattan, posed an unusual disposal problem for the New York Fire Department and resulted in a unique solution.

Chief Schweikert of Battalion 6 used chemical extinguishers and had the firemen shovel the smouldering debris into metal barrels in which the stuff was removed to the street. The Sanitation Department refused to take the material and the problem was how to get the dangerous refuse out of the city.

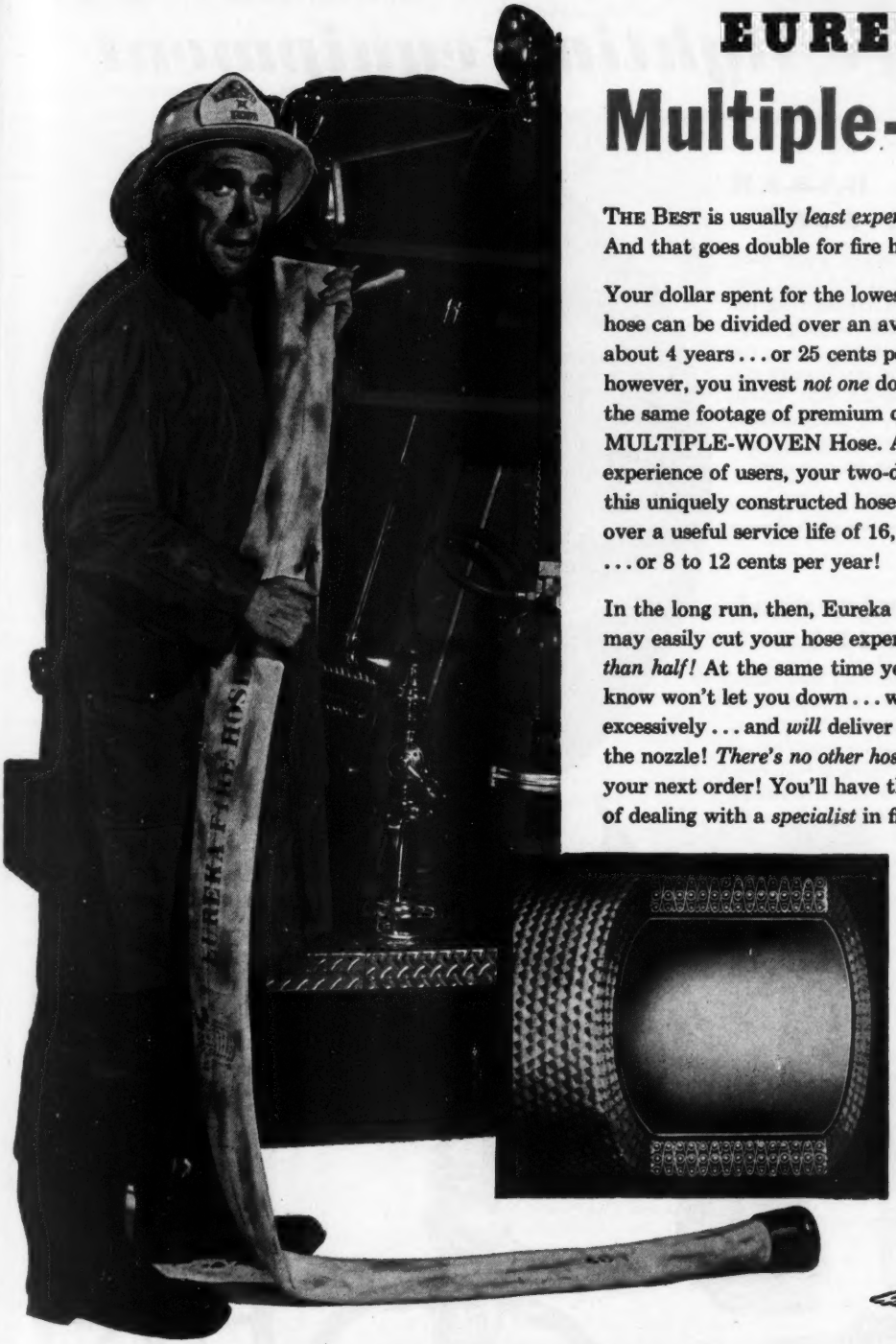
With the consent of Chief Massett, Engine 33 carted the hazard to Pier One where the Fire Boat McKean took the cargo aboard and dumped it in the ocean beyond Ambrose light.

—Jerry Daly

Let's talk DOLLARS and SENSE about

EUREKA

Multiple-Woven



THE BEST is usually *least expensive in the long run.* And that goes double for fire hose! Here's why:

Your dollar spent for the lowest-priced approved hose can be divided over an average service life of about 4 years . . . or 25 cents per year. Suppose, however, you invest *not one* dollar but *two dollars* in the same footage of premium quality Eureka MULTIPLE-WOVEN Hose. According to the experience of users, your two-dollar investment in this uniquely constructed hose may well be spread over a useful service life of 16, 20 or even 24 years . . . or 8 to 12 cents per year!

In the long run, then, Eureka MULTIPLE-WOVEN may easily cut your hose expenditures *by more than half!* At the same time you'll have a hose you know won't let you down . . . won't warp or writhe excessively . . . and *will* deliver maximum pressure to the nozzle! *There's no other hose like it.* Specify it on your next order! You'll have the added satisfaction of dealing with a *specialist* in fire hose!

All plies of Eureka Multiple-Woven Hose are woven *and interwoven* simultaneously, leaving no space between plies for collection of water, dirt or mildew.

"For greater protection to life and property"

EUREKA FIRE HOSE

Since 1875, Specialists in Manufacturing Circular-Woven Cotton Rubber-Lined Fire Hose

1 Market Street • Passaic, New Jersey *Division of* United States Rubber

J. M.
Established 1860

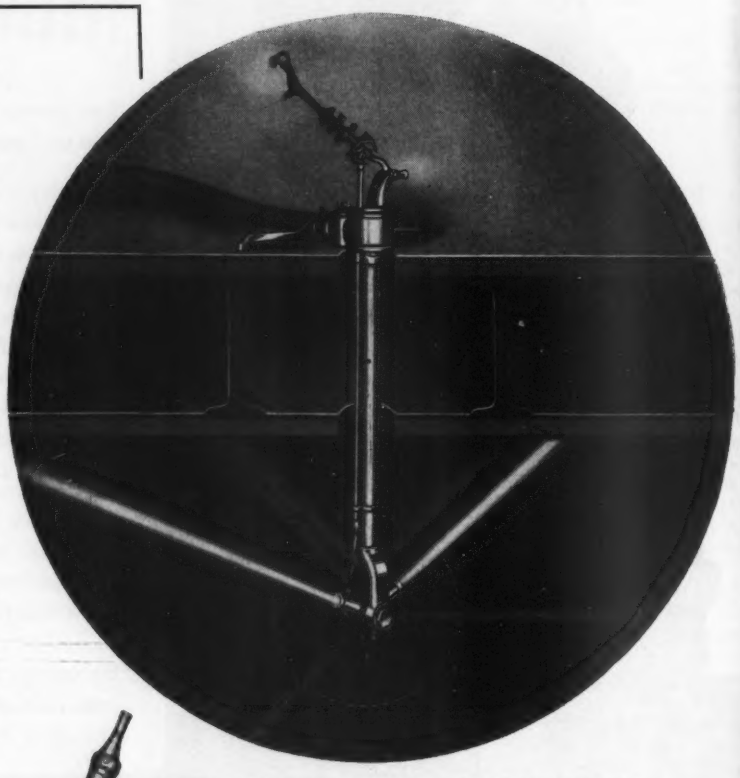
BAKER

in Fire Service Only The BEST is good enough—

fire fighting equipment

Famous BAKER CELLAR PIPE

Fights fires between decks, under dock, through roofs—walls or any blind spot. Throws two, one inch streams from two to sixty feet, and nozzle works up-down and completely around. Every ship and every fire department should carry this unique and very effective pipe. Comes with brackets and locking device and fog tips if desired. Try it before you buy it —backed by "money-back" guarantee.



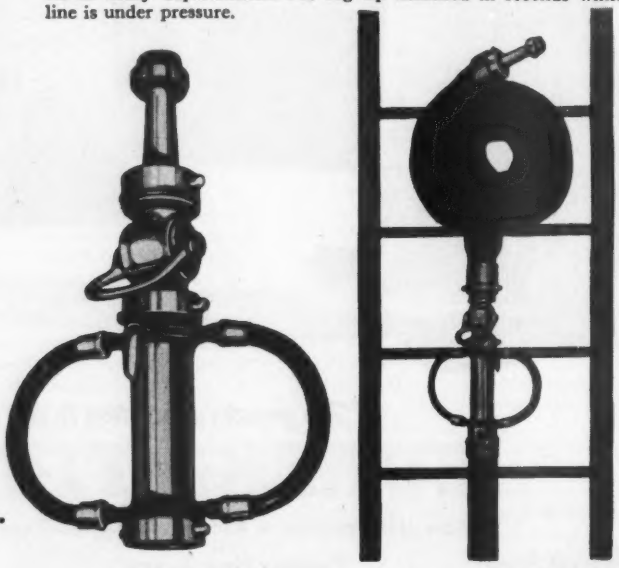
BAKER Universal TURRET PIPES

Either hand or gear operated these BIG stream throwers are in use in many fire departments and as fixed protection in Industrial Plants. Can be used as a portable or fixed unit on pumpers, in which case it operates from turntable. Can be had with 2, 3, or 4 way siamese with automatic clapper valves. Fog tips available.

We appreciate your inquiries —Write:

BAKER LITTLE GIANT PLAY PIPE

The Baker 1½" and 2½" Shut-Off Nozzle and Little Giant Play Pipe has a 2½" Universal Thread Size on the inlet and outlet for making quick changes. No packing, but a phosphor bronze sealing ring to last a lifetime. Most adaptable of any playpipe and a favorite in many departments. Our fog tip attached in seconds while line is under pressure.



J. M. BAKER PATTERN CO., INC.

68 Sprague Street, Providence 7, R. I.

WHAT'S NEW

Among the Manufacturers

- products
- processes
- personalities

Industrial Pumper Built by W. S. Darley and Co.

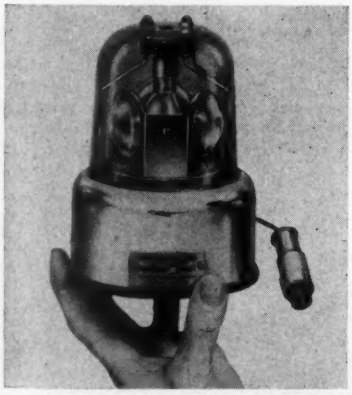
The W. S. Darley and Co., 2810 Washington Boulevard, Chicago 12, Ill., builds a compact unit for industrial users. Fitted on a one-ton, 4 x 4 jeep chassis, it is equipped with a gear-driven 500-gpm front-mount pump.

The hose bed has a capacity of 500 feet of 2½-inch hose and a separate divided compartment will hold 300 feet of 1½-inch hose. A reel holds 150 feet of 1-inch booster hose, fitted with a combination fog and straight stream nozzle, and connected to the 150-gallon booster tank.

Standard equipment includes roof and extension ladders, pike poles, axe, crow bar, claw bar, 15-pound CO-2 extinguisher, siamese and two handlights. Spotlights on the windshield posts provide additional driving lights, or may be used for fire ground illumination; Two hose bed lights are capable of 360 degree rotation; and a large siren with an integral red light provides a warning signal.

Steel mounting plates fitted on the bumper, which is extended in front of the pump, provide additional space for carrying soft suction hose, etc. It is capable of one-man operation if desired.

Rotary Warning Light



The Pyle-National Company, 1334 N. Kostner Avenue, Chicago 51, Ill., announces the addition of the Rota-Beam Warning Light to its line of visual warning signals.

The 6 and 12-volt models will plug into a cigaret lighter and have a magnetized base for quick and secure temporary mounting. It is also available with a base for permanent mounting on emergency vehicles. Bulletin 638, describing this product is available on request.

Neoprene-Covered Fire Hose

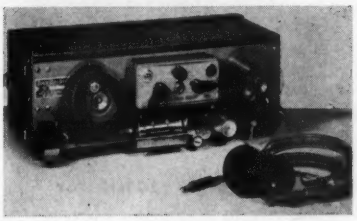
A new fire hose with increased flexibility and reduced weight has been developed by Hewitt-Robins, Inc., Stamford, Conn., for use in chemical plants, oil refineries and the marine industry.

The hose has a carcass of dacron and cotton fabric and a neoprene tube suitable for water or oil service. The cover is a neoprene compound resistant to heat, flame, acids, oxidation and abrasion. Built to withstand pressures up to 500 pounds, it is easier to handle and requires no drying time. It will be marketed under the name of Monarch Chemoil fire hose and is available in diameters of 1½ and 2½ inches. A special 2-inch size can be manufactured on order.

GE Radio Literature Offer

Maximum versatility of two-way radio units is stressed in General Electric Company's latest information bulletin ECR-458. In its eight pages, the bulletin covers adaptability of the GE building-block design in adding optional equipment, such as selective-signalling and calling, simultaneous monitoring, etc. Write to Communications Products Department, Syracuse, N. Y.

Continuous Tape Recorder



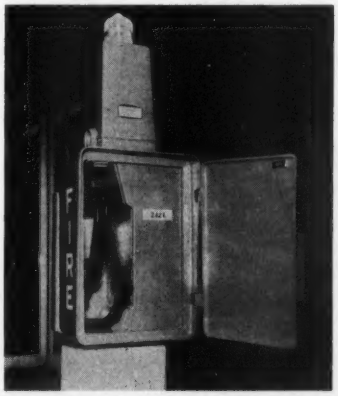
The SoundScriber Corporation, New Haven, Conn., has announced a magnetic tape recorder/reproducer capable of recording continuously for 24 hours. Tape reels for storing the recorded material measure only 3¾ inches in diameter and 2 inches wide. SoundScriber claims that its new unit, called the "24," is extremely reliable and operates with the accuracy of an electric clock. Extended periods of continuous recording are attained by an extremely slow tape speed of 2½ inches per minute.

New Public Alarm System

A new public alarm system which, it is claimed, combines the features of the fire alarm box and the emergency telephone in a single unit, will be installed in the harbor area of Los Angeles and the city of Santa Monica during May and June.

The system, known as the "PhonAlarm" makes it possible for an emergency to be located while it's being described by the person reporting it.

Invented by C. L. Craddock of North Hollywood, Cal., the system has been developed during the last three years by the PhonAlarm Division of Angelus Industries, Inc. of Los Angeles.



The street units resemble the familiar fire box in exterior characteristics, but are marked "emergency public phone" as well as "fire." When opened, it reveals a telephone handset. After the phone has been picked up, the box location is automatically recorded in full view of the emergency operator on a coded tape.

PhonAlarm installation is designed to use existing fire alarm circuits, rather than regular telephone lines.

The cost is claimed to be lower than rental payments on emergency phones and comparable to that of the fire alarm box.

An added feature is a localite—a dis-

tinctive light located at the top of each box that flashes 70 times a minute.

Maxwell L. Rubin is president of Angelus Industries, Inc.; William H. Tucker Jr. is general manager of the PhonAlarm organization; and Alfred Theurich, retired fire alarm superintendent of Pasadena, is sales manager.

New Back-Pack Resuscitator

A lightweight resuscitator has been developed by the National Cylinder Gas Co., 840 North Michigan Avenue, Chicago, Ill., that will make it possible for a rescuer to carry a "breath of life" on

his back to a person who is unconscious or trapped.

The new resuscitator weighs about 20 pounds with its two "D" oxygen cylinders. A twist of one dial converts the unit to an inhalator and it can also be used as an aspirator to suck obstructing material from the throat.

For use in areas of air contamination, the unit can be equipped with dual oxygen masks—one for the victim, the other for the rescuer. Use of strap-on masks makes it possible for the victim to be given oxygen even while he is being carried on a stretcher. In such a case the back pack could be worn by one of the stretcher carriers.

Philadelphia Rescue Unit

Recently placed in service is this new Philadelphia truck, an International Model R-206-A mounting a specially equipped rescue body. Designated "Rescue Unit No. 1" the 175-inch wheelbase vehicle has air brakes, and a front-mounted winch, operated by power take-off. The rescue body has interior and exterior storage compartments which provide space for portable pumps, blankets, tools, stretchers and resuscitative equipment.

Modern "Mayflower"

The crew and passengers of the "Mayflower" in 1620 would have looked with fright at three pieces of equipment installed aboard her replica, now approximately half way across the Atlantic.

The only concessions to authenticity in her equipment are a marine radio, two Kidde 10-pound carbon dioxide fire extinguishers, and two 10-man and three 12-man Fabric Combiners Ltd. dinghies, fitted with Kidde carbon dioxide inflation gear. These concessions to safety were demanded by the British Ministry of Transport.

Joyner Named General Manager

Appointment of James H. Joyner as general manager, Pioneer Works, Quaker Rubber Division, H. K. Porter Company, has been announced by G. A. Dauphinais, vice-president and general manager.

Mr. Joyner joined Quaker as a salesman in 1950. He set up branches in both St. Louis and Los Angeles, and served as district manager in Los Angeles. When Porter acquired Pioneer, Mr. Joyner was made manager of sales in the western states.

Power Project To Use CO-2

Automatic carbon dioxide fire extinguishing systems for sixteen 60,000 KVA generators in the United States portion of the St. Lawrence Power Dam will be supplied by Walter Kidde & Company, Inc., Belleville, N. J.

The contract calls for four electrically-operated systems, each comprising fifty-three 75-pound cylinders. Switches and trips built into the CO-2 piping are actuated by the passage of the gas. When thrown they cause generator ventilation to be secured, shut off all electrical power, and sound audible alarms.

New Alfco Extinguisher

A new dry chemical fire extinguisher is now being produced by American La-France, FPE Division, Elmira, N. Y.

Small in size (14½ inches high) and weighing only four pounds, the model PDC-2A features simple hand-squeeze operation.

The extinguisher is simple to service. A pressure gauge indicates its readiness for operation and complete directions for recharging and pressurizing are on the label. The extinguisher is approved by Underwriters' Laboratories for the protection of Class B and Class C risks.

Clipboard For Dark Places

"Ray-Rite" is a combination flashlight and clipboard built into a single unit. It is made in three standard masonite or aluminum board sizes and powered by two flashlight batteries. Marketed by Mutual Engineering and Manufacturing Co., 1124 East 108th St., Los Angeles, 59.

ADT Dedicates New Southwest District Office

The American District Telegraph Co. dedicated its new central station and Southwest district headquarters in Houston on June 6. The new building is the largest ever built for housing a central station.

It includes operations office, local and district sales offices, plant department shop and plant headquarters. The company has central stations in principal cities from coast to coast and has provided service in Houston for 51 years.

YOU EXPECT THE BEST FROM AKRON BRASS

–here it is . . .

Entirely New PDQ FOG NOZZLE

★ Resilient rubber bumper for protection against damage

★ Adjustable through all angles of fog

★ Positive stream positioning—by feel or sight. Clicks into fog patterns or straight stream

★ Swiveling "Rocker Lug" base—handle is always on top

You too will agree—finest nozzle of its type

★ Corrugated no-slip grip

★ High gallonage

★ Easy pattern indicators

★ Akron quality ball shut-off

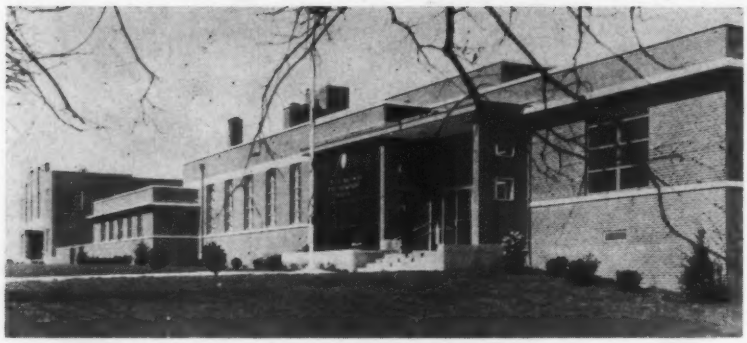
★ Man-size handle

PERFORMANCE DATA

STYLE	SIZE	GPM	PRICE PB	PRICE CP
1209	¾"-1"	24	$67.50	$72.00
1218	1½"	95	72.00	76.50
1219	1½"	125	72.00	76.50
1229	2½" for PP	250	78.50	84.00
1239	2½" Dir. Con.	250	92.00	97.50
1249	2½" with PP	250	102.00	115.50

AKRON BRASS
FIRE FIGHTING EQUIPMENT

Akron Brass Mfg. Company, Inc. • Wooster, Ohio



Baltimore City Fire School Dedicated with Elaborate Ceremonies

Baltimore fire fighters saw a dream come true, with the inauguration of their new fire school on Saturday, April 27.

The installation is located at 6720 Pulaski Highway, some distance removed from the center of the city where the smoke of test fires will not seriously interfere with the public.

Briefly, the area of four acres includes, in addition to the fire station of Engine 3, a magnificently accoutred auditorium seating over 400, with stage, sound systems and lighting effects; a six-story and basement drill tower; various rectangular and circular pits, electric motor, oil burner, transformer, tank car, Christmas tree and other appurtenances, to facilitate "training-by-doing." In addition, there is a fire training building in which fires may be fought; a special gas mask room, high tension electric grid and a hose testing table and drafting pit. All drill areas are blacktopped and concrete. The entire grounds are fenced and the front exterior is artistically landscaped.

There is a great story behind this new school, which, together with the Baltimore County Fire School at Townson, Md., and the celebrated school at the University of Maryland, places Maryland in the forefront of states when it comes to such places of learning.

The detailed story of the origin and development of the Baltimore City school will be told and illustrated in the forthcoming IAFC Conference and Buyers' Guide Issue of FIRE ENGINEERING.

Speakers at the dedication ceremonies were Mayor Thomas D'Alesandro, Jr.; Robert C. Byrus, director, Fire Service Extension, University of Maryland; Baltimore Fire Chief Michael Lotz and Roi B. Woolley, editor, FIRE ENGINEERING. John T. O'Malley, executive secretary, Baltimore Board of Fire Commissioners, acted as master of ceremonies.

Short Circuit Blamed for Philadelphia Four-Alarm Fire

A short circuit in the extension cord of an electric clock was blamed as the cause of a four-alarm fire that partially destroyed two buildings in Philadelphia on Sunday, March 31. The first alarm was received at 6:39 a.m., and was followed in rapid succession by additional alarms until the fourth was transmitted at 6:55 a.m. A complement of 16 engines, seven ladders, two rescue companies and auxiliary equipment responded.

The building of origin, located at 38 North Delaware Avenue was a five-story brick-wood joist structure housing a paper and twine company. It backed up to, and was separated by a common brick wall from a four-story building of similar construction on 37 North Water Street. Unprotected openings between the buildings existed on the two upper floors, and on the second floor a fire door failed to close a 4 by 8-foot opening. During the fire the roofs of both buildings collapsed. Large stocks of paper supplies were damaged.

The extension cord of the electric clock had exposed wire which had come in contact with a copper bell wire extending through two wooden partitions and up two floors in the building of origin. Investigation determined that a 4-inch hole had been burned around the bell wire at the point of contact with the floors. The clock had stopped at 5:32 a.m.

Shorter Hour, Longer Vacation Laws in New York

Amendments passed by the New York State Legislature and signed by Governor Averell Harriman will provide longer vacations and shorter hours for many of the state's firemen in future years.

Effective January 1, 1958, all firemen with five or more years of service will be granted an annual vacation of not less than 21 consecutive days. Present law mandates a minimum of 14 days after one year of service.

Effective January 1, 1962, no fireman shall be required to work more than an average of 56 hours per week. In order to prevent an abrupt change to the shorter week, the law also requires that beginning January 1, 1958, and each year thereafter, the number of hours in excess of 56 which firemen are then required to work shall be reduced by at least 25 per cent. The new law does not prevent a community from granting a lesser number of hours than an average of 56 per week.

County Plans Central Fire Alarm System

The chairman of the Montgomery, Md., Fire Board, William John Taylor III, has announced that the county will install a central fire alarm system. At present two alarm systems cover all but four fire districts. The new system will tie in all districts and is expected to increase the efficiency of the volunteer fire departments now protecting the county.

—Irving Johnson

Corrections

In the article "Chemical Terminology in Fire Protection," May 1957, Page 423, description in opening statement should read "one hundred 55-gallon drums"; Page 424, the symbol for hydrogen cyanide should be "HCN"; Page 424, the general formula for the alkanes is:

"C_nH_{2n+2}."

WHOOSH!
NO MORE FIRE
Point horn, pull trigger, fire's out! That's all it takes to knock out deadly fire with instant-action Kidde dry chemical portable extinguishers! So easy to use, even inexperienced operators get perfect fire-fighting results. Kidde's patented diffuser horn spreads dry chemical powder over wider area for greater fire-killing power. Trigger-release means faster action, feels more natural in the hand. Pick the Kidde dry chemical portable to fit your needs: 5, 10 lb. pressurized (recharged at any commercial air pump), 20, 30 lb. cartridge operated. For more information on dry chemical, carbon dioxide and wet chemical extinguishers, write today for Kidde's P-8 catalog and name of nearest distributor.

Kidde

Walter Kidde & Company, Inc., 633 Main St., Belleville 9, N. J.

Walter Kidde & Company of Canada Ltd., Montreal—Toronto

FALSE ALARMS

Mixed Metaphors

The midnight oil is now burned in the transmission instead of the lamp.

To the Engineers

God made a machine, the machine made men,
Doctors, firemen, priests, and then
The devil got in and stripped the gears
And turned out the first batch of engineers.

Blonde: "Are you sure you're in love with that Texas oil man?

Brunette: "Sure? I'll say! Every time I hear his voice I get chinchillas up and down my spine."

Fire College Foolosophy

"Gentlemen," said the Fire College lecturer, "I will not begin today's discussions until the room settles down."

"Good for you, Prof," came a voice from the rear ranks, "Why don't you go home and sleep it off."

Mixed Metaphors "It is better to remain silent and be thought dumb than to speak out, and remove all doubt."

Asking a woman her age
Is like buying a second-hand car
The speedometer's been set back
But you can't tell just how far. . .

Fireman: "Bills, bills, bills! I wonder why we never manage to save anything?
Distraught Wifey: "It's the neighbors' fault. They're always doing something we can't afford."

Latest Detection Device

Proby: "Have you seen one of those instruments that can tell when a man's lying?"

Vet: "See one? Hell, I *married* one."

We're reminded of the classic pulled by the pretty elevator operator. "It isn't the ups and downs that bother me," she said, "It's the jerks."

Small boy walked disconsolately through a greeting-card-and-book store.

"May I help you?" twinkled a clerk.

"Uh huh," brightened the lad "I'm looking for a blank report card."

Chief Clinker says "Why is it some fellows spend so much time trying to learn the tricks of the trade, when they could just as easily learn the trade?"

Dishing It Out

Woman: "Your honor, he broke every dish in the house over my head and treated me cruelly."

Judge: Did your husband apologize or express regret for his actions?

Woman: "No, the ambulance took him away before he could speak to me."

Fish Story

A New Yorker was fishing in Lake Placid recently. He caught a big northern pike, the biggest the nimrod had ever landed in his long, busy life. He was elated. Full of pride and everything, he telegraphed his wife back home in Brooklyn: "I've got one; weighs eight pounds and it is a beauty!"

The following morning he received an answering wire "So have I; weighs ten pounds; not a beauty; looks like you; come home."

"Gamblers are always kind to dumb animals," says a statistician. "They always like to see plenty in the kitty."

The Salt of the Earth

An old salt was engaged in conversation by the benign old gentleman.

"You evidently have lived an exciting, adventurous life," said the old gentleman. "What was the last thing that happened to you?"

"Well, sir," said the sailor, "only a few weeks ago I had an operation. When I came to, the doctor told me he had left a sponge inside of me. It's still there."

"Goodness! Does it cause you much pain?"

"Oh no, sir—no pain, but it does make me awfully thirsty!"

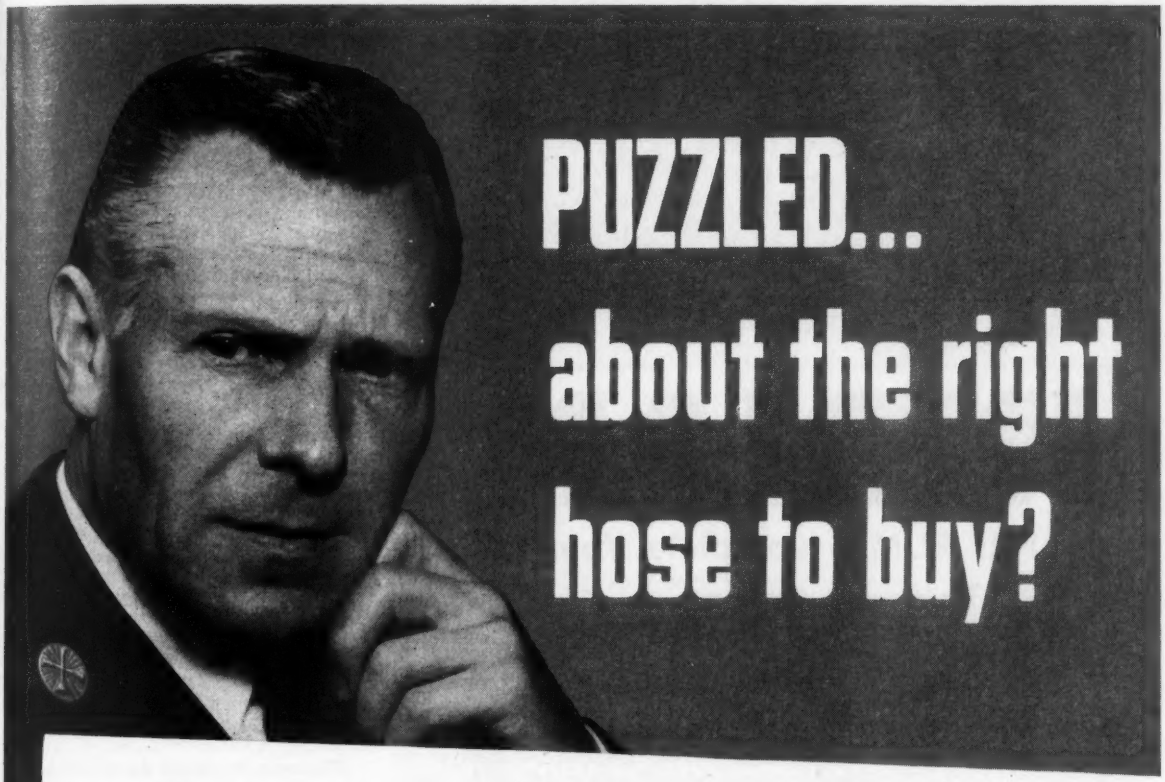
Captain Klinker retired and went to Florida. There he met one of his old buddies of Ladder 18. "How're you doing down here?" he inquired.

"Fine," his old pal said, "I've gone into the antique business."

"Where's your shop?"

"Oh, I've got a chain of farmhouses all through New England."

"How long will it take it to dry, painter, so the boys can start washing the walls?"



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Remember: Only **BOSTON** *offers every important feature!*

1. A hose for every fire fighting need from a proven, reliable source.
2. Single responsibility — couplings and fittings custom-made by the same company that manufactures the hose.
3. Made by the originators of circular woven fire hose — with over 75 years of experience.
4. Seamless tube of highest quality rubber for longest service life and least water absorption.
5. DACRON filler for lightness, extra strength, superior flexibility.
6. Longer service under most severe conditions.
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10. Fast, personalized service from warehouses throughout the United States.

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BOSTON WOVEN HOSE & RUBBER COMPANY
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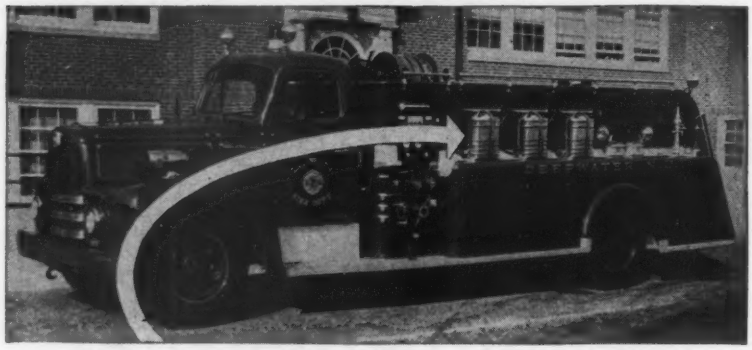

INDIAN

FIRE PUMPS Complete Your Truck Equipment . . .

H. & H. Fire Apparatus Co., of Jersey City, N. J., built the above truck delivered to Deepwater Fire Department, Deepwater, N. J. It is equipped with chrome plated **INDIAN FIRE PUMPS.**

Famous **INDIAN FIRE PUMPS** are standard equipment on more and more new fire trucks. They have no equal for fighting so many types of small fires. They belong on *your* trucks, too.

"THERE IS NOTHING ELSE LIKE THEM"

"We have 6 of your **INDIAN FIRE PUMPS** on one of our fire trucks and we have used them 8 years. They are still **just like new.** They are the best things a fire department can have. I have used them for everything, including grass, house, barn, rubbish and many other kinds of fires. We like them very much. **There is nothing else like them.**"

EARL L. KOCH, Assistant Chief
Ann Arbor TWP F. D.,
Ann Arbor, Mich.

NO. 90 INDIAN SLIDING PUMP TYPE

Both types of INDIAN FIRE PUMPS are approved by UNDERWRITERS' LABORATORIES

NO. 80 INDIAN LEVER TYPE Pump and Handle

For all Class A fires. Fire Chiefs say INDIANS are "worth their weight in gold."

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"FOR 70 YEARS THE LEADERS"
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AMBULANCE SERVICES

Continued from page 532

Nearly all vehicles are fitted with two-way radio. The addition of this type of communication equipment has definitely improved the efficiency of ambulance operation within the fire department and rescue squads. Many of the companies report portable or walkie-talkie units now are carried in addition to the mobile units. The study developed the strong trend toward the use of alternators; more than half of the vehicles equipped with radio, covered by the reports, are fitted with alternators for supplying the electrical system of the apparatus.

Public address systems are also an important adjunct of many squads. A popular method of mounting this equipment is in conjunction with the mobile radio. A loudspeaker for the combined unit is then located on the exterior of the vehicle and may be switched from PA to radio as desired.

In addition, several companies report that electronic megaphones have proved valuable in crowd control, water emergency work, and when crews are operating over a wide area. This is another functional device that is currently finding new applications.

Improvised equipment

The inqenuity of the rescue personnel continues to demonstrate itself in the improvised equipment carried on emergency vehicles. One of the more popular items in this category appears to be the back board for handling serious injury cases. Several styles are reported, one squad making its own individual folding type. Another innovation is a single sheet of plywood that can be used under a patient when X-rays are necessary. Chief E. E. Goodrich, of the Prineville, Ore., Ambulance Corps, reports that the use of this board affords a minimum of handling with consequent less movement of the patient. The board is of a size to fit the dimensions of the cot or stretcher used by the corps.

Still another detail comes from Captain Claude N. Shoop, Jr. of the Annandale, Va., Rescue Squad who reports that his company makes up its own triangular and cravat type bandages and then seals them in waxed paper bags. This saves time at the scene of an accident where the bandages are required. This outfit also carries neutralizers in plastic bottles for poison cases. This method is just as convenient as any other and in addition, it eliminates the hazards of glass breakage during transit.

Manpower and training

The problem of manpower and training continually besets the volunteer rescue and first aid squad. Many units questioned on this important detail reported that a local doctor was a member of, and medical advisor to, the unit. Usually the doctor is also the training head of the squad which generally proves an excellent arrangement.

Red Cross first aid instruction is stand-

ard with most squads with the entire membership frequently holding advanced cards. Refresher courses are regularly scheduled. It is not unusual to find that several members of each squad will also hold instructor certificates on the subject.

One of the unique first aid squads is the Citrus Heights, Calif., Fire District First Aid Unit. It consists of 20 women volunteers headed by a captain and a lieutenant. It was formed for the purpose of relieving the firemen of the district of extracurricular first aid duties.

The unit drills once each week with different doctors of the district taking on a portion of the drill instruction. In addition, the women help the local hospital during the Christmas and New Year holiday season thereby gaining additional experience.

A sidelight on the training problem was voiced by the Livingston, N. J., First Aid Squad, Inc. Its officials believe that all equipment should be as simple as possible and easily operated. Unless this fact is kept in mind, the stated training problem may be difficult for the volunteer squad to overcome.

In this year's study, an effort was made to secure from the representative ambulance and first aid companies and squads queried, some indication of changes that might be in prospect or desired in ambulance vehicles and facilities. Oddly enough, few respondents were seriously critical of either ambulance design or related details.

Of the recommendations, the majority were for greater storage or compartment space. Only one unit has any suggestion concerning ambulance vehicle dimensions; this outfit wanted greater length and height.

The major recommendation of a New Jersey township first aid squad was for an improved heating system in the rear of the ambulance for greater convenience to patients. And it had a minor wish . . . for a built-in ash tray in that section of the vehicle. □□

The editors wish to thank the many fire departments, first aid and rescue squads which so generously contributed to this study.

April Fire Losses

Estimated fire losses in the United States during April amounted to $85,994,000, the National Board of Fire Underwriters has reported.

According to Lewis A. Vincent, NBFU's general manager, this $85,994,000 loss represents an increase of 1.6 per cent over losses of $84,624,000 reported for April 1956, and a decrease of 17.8 per cent from losses of $104,565,000 for March 1957.

Losses for the first four months of 1957 now total $401,400,000, an increase of 13.1 per cent over the first four months of 1956, when they amounted to $354,952,000.

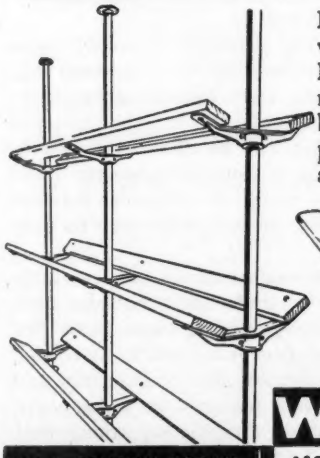
These estimated losses include an allowance for uninsured and unreported losses.

BEST SOLUTION TO YOUR HOSE STORAGE PROBLEMS

Photo Courtesy Wichita Fire Station No. 1

BUILD YOUR OWN RACKS WITH LOK-TITE BRACKETS

SIMPLE INSTALLATION	EASY ADJUSTMENT	BIG LOAD SUPPORT
Ceiling Flange; 1½" pipe supports LOK-TITE BRACKETS; Floor Flange	2 x 6 stringers bolt to the bracket; LOK-TITE BRACKET bolts to pipe support at any height	Pipe and stringers will fail before the brackets slip



Protect your hose with ample ventilation. Provide quick, easy access for use and inspection. Promote good housekeeping and make the most of your storage space, by planning and building your own racks – from new or used pipe and lumber, and handy, sturdy, fully adjustable Lok-Tite brackets.

Lightweight, high-strength aluminum alloy Lok-Tite brackets – designed for easy installation.

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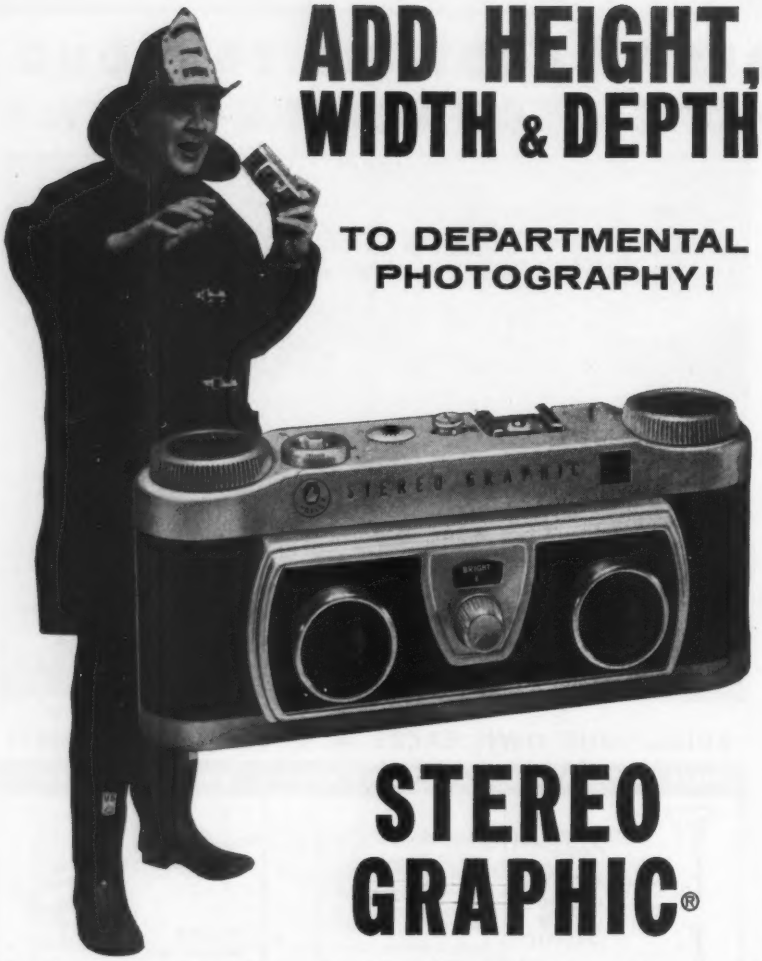

The three dimensional Stereo Graphic adds the important dimension of depth to fire department photography. Fireman training programs, fire prevention and arson investigations can all benefit from this form of photography that comes closest to duplicating the original scene.

Shots taken at the scenes of fires showing proper or improper angle placements of ladders or firemen and equipment too close to a weakened wall can be used to point out fire fighting techniques. Three dimensional pictures showing violations of fire prevention ordinances, like inflammable material too near a furnace or exposed electrical wiring, can be effectively used to enforce fire prevention regulations. Photographs at scenes of suspected arson enable the investigators or jurors to visualize easily the distances between objects in a room while the whole scene springs to life in natural color for easy identification of evidence.

The Stereo Graphic performs three dimensional functions more perfectly and more easily than any other camera. There are no focusing problems since every picture is automatically in focus from foreground to background. Set only one dial and you're ready to shoot. The shutter is automatically cocked as the film is advanced. Double exposure prevention, film counter dial and built-in flash synchronization are other important features. Its lightweight, precision die-cast aluminum body gives the Stereo Graphic ruggedness that assures years of trouble-free service.

For additional information, call the local Graflex dealer listed in the yellow pages of your phone book or write Dept. FE-67, Graflex, Inc., Rochester 8, N.Y.

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GPE

SAGA OF STEAMERS

Continued from page 539

some machines; their steam boilers and pumps were of fine workmanship and great efficiency. By the end of the steam fire engine era, more than 1,000 Amoskeags had been sold to cities from coast to coast.

Among the achievements of Amoskeag were the building of the largest steam fire engines ever constructed, and the development of the famous Amoskeag self-propeller double-extra first size steamers which had a rated capacity of 1,300 gpm.

One of the Amoskeag engines was accredited with recording in an official test over 1,800 gpm at draft. Extra first steamers were rated by the Underwriters at 1,100 gpm; first size, 900 gpm; second size, 700 gpm; third size, 600 gpm, and fourth size, 500 gpm.

New York purchased its first Amoskeag self-propeller in 1872, ordering four more in 1874. These engines were in active service as self-propellers for about ten years in Engine Companies 8, 11, 24, 31 and 32. In 1884, two of these units were converted to horse-drawn and the others were listed as "spares."

Some of the cities which had Amoskeag self-propelled steamers were Portland, Me.; Boston; Hartford; Brooklyn; Milwaukee; Newark; Pittsburgh; Detroit; Chicago, and Vancouver. It is not generally known, although it is a fact, that a few of these engines were in service until replaced with motor pumpers. Hartford's famous "Jumbo" was tractorized and continued in use as a gasoline propelled steamer for several years after the start of motorization. The self-propellers were powerful pumpers of the largest capacity and were effectively used as the "heavy artillery" of the departments in which they were in service.

Rotary vs. piston

Silsby Manufacturing Company of Seneca Falls, N. Y., began the manufacture of the Silsby rotary steamer in 1856, using the gear-type pump patented by Birdsall Holly, and continued to build rotary pump steamers exclusively until their merger with other manufacturers in 1891.

The controversy over the relative merits of rotary and piston pumps was fiercely waged and it continued even into the motorized apparatus era. While the centrifugal pump eventually gained supremacy, there are to this day the irreconcilables and "unreconstructed rebels" who are piston or rotary partisans.

Piston-type steamers were in the great majority at the sunset of the steam fire engine era but Silsby produced more than 1,000 of the steam rotor-gear-pump type and conducted what was said to be a successful and profitable business. It is worthy of more than passing note that the rotary pumps so widely used on later motor fire apparatus were all modifications of the original Holly design as improved and perfected by Silsby.

One of the first employees of Silsby at its Seneca Falls plant was M. R. Clapp, who began building of steam fire engines

on his own account in 1862 at Hudson, New York. The Clapp & Jones Company, as it was styled, became one of the few successful builders, selling about 600 steamers before becoming part of the American Fire Engine Company in the previously mentioned merger of 1891.

The other company which joined Ahrens, Silsby and Clapp & Jones in the merger, was Button Fire Engine Works, of Waterford, N. Y. Mr. L. Button was another of the pioneers in the fire engine industry he began building steamers in 1862, after 28 years as a manufacturer of manual fire engines. The Button Works turned out about 100 steamers before being absorbed. All of these engines, except one, were of the horizontal piston pump type. Horizontally-placed pumps were favored by the early manufacturers but, with the exception of Button, all of the successful builders of piston-type steamers adopted or changed over to the vertical pump design, in both the single and double pump models.

Enter La France

One of the best known names in the industry entered the fire engine picture in 1875—the La France Manufacturing Company of Elmira. This concern began as builders of rotary steamers, adding the piston-type to its line in 1885. Although a comparatively late starter in the field, the La France Company grew rapidly and before consolidation with other companies produced about 400 steamers, most of them of the piston model. It might be mentioned that La France also built the Hayes aerial ladder truck.

The American Fire Engine Company had renamed the Ahrens steamer the "American," and continued the production of the Silsby and Clapp and Jones as long as there was a demand for them, but incorporated the famous Fox water-tube boilers in all models. After the merger of American and International, the La France steamer was continued in the line to meet the demands of departments which had standardized on, or preferred, the La France. However, the "Metropolitan"—the renamed and improved "American"—gradually took over the market.

Metropolitan and Columbian

In the 1890's American Fire Engine Company built for the Chicago Fire Department 14 steamers of a type which they called the "Columbian," the name of the Chicago Worlds Fair of 1893. This was a combination steam pumper and hose carrier in the British manner. These steamers were in service at Engine Companies 38, 69, 70, 72, 73, 74, 75, 76, 77, 79, 81, 82, 83 and 86 and were operated by crews of six men. They were the first single piece engine companies in American departments. The Columbian engine was successfully used in suburban areas of Chicago and was found to be a practical piece of equipment, although we have no record of its adoption by any other American city.

The Metropolitan steamer had the market almost to itself when the W. S. Nott

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The Scottoramic Mask gives unlimited vision in all directions. It helps you keep out of danger zones.

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CAIRNS & BRO., Inc. — Allwood, Clifton, N. J.

SINCE 1836

Company, of Minneapolis, energetically set up competition in 1904 with a new engine employing a fast steaming boiler and highly efficient pump. The Nott quickly became widely known and during the few years that remained before the eclipse of the steam engine, the company made phenomenal progress in the industry. When it was realized that gasoline motive power would replace the horse, the Nott Company produced a gasoline motor-driven steamer and sold several of them to New York; Birmingham, Ala.; Paterson, N. J., and possibly other cities.

New York's Engine 58 quickly became the most publicized piece of fire apparatus in the country but its service life was brief. It soon became evident that it would be more practical to use attached tractors instead of units of the Nott-type where the gasoline engine was an integral part of the appaartus, with chain drive to the high rear wheels of the steamer.

In 1904, Chris Ahrens, his sons John P. and Fred, and sons-in-law Charles H. Fox and George Krapp, re-entered the fire engine business, organizing the Ahrens Fire Engine Company and occupying a fine new plant at Colerain Avenue and Cook Street, in Cincinnati. The company manufactured a new steamer designed by Mr. Fox and named the "Continental." Because of the excellence of the product and the great prestige of the Ahrens and Fox names, this company soon became well established, and successfully competed with the only other two builders then in the field.

In 1908, Mr. Fox became president of the company and the corporate name was changed to Ahrens-Fox. The last Continental steamer, an electric tractor drawn model, was built in 1912.

Waterous begins in '88

A name also universally known in the fire service over the years is that of Waterous, of St. Paul, Minn., which company has an enviable record of fire pump construction over a period of almost 70 years. The Waterous Engine Works began the building of steamers in 1888 and produced both horizontal and vertical double piston pump models. Waterous steamers were particularly well known in the Middle West but they found their way into departments on both coasts. The author well remembers two very fine Waterous steamers in Seattle, Wash. Grand Rapids, Mich., had a big extra-first size at its No. 5 Station —later at No. 9—which we especially admired. It should be recorded that Waterous built the first automobile pumping engine and that throughout the firm's long career it has pioneered in many improvements and advances in the art and science of fire pump design.

Other builders who were well known in the period but whose production was limited, were William Jeffers, Pawtucket, R. I.; Ives and Son, Baltimore, Md.; Hunneman and Company, Boston; Mansfield Machine Works, Mansfield, Ohio; and Thomas Manning and Company, Cleveland. Detroit at one time had seven Manning steamers and ten were in service in Cleveland; this company's total

production probably reached 100 machines. A more lengthy list would be needed to enumerate the other builders, who were on the scene too short a time, or whose production was too limited, to be considered as successful producers.

Chronologically, the end of the steam fire engine era may be set down for posterity as the year 1912, at which time New York purchased 27 second-size "Metropolitans," constructed with Christie tractor-drive. Fire Chief John Kenlon recommended the purchase of the tractorized steamers instead of the gasoline pumpers which were already replacing steam engines in most cities. These were the last steamers constructed in the United States and the only ones originally built as front-drive tractor-drawn units. During the following 19 years, before his retirement in 1931, Chief Kenlon put more than 300 gasoline pumpers in service in the New York Fire Department.

During the years from 1840 to 1912, approximately 5,000 steam fire engines were constructed by the more than 50 builders who competed for a foot-hold in the industry. At the close of the era, only four manufacturers were bidding on the requirements of American Fire Departments. □□

The author wishes to acknowledge the research assistance received from the New York Fire Department Library and WNYF.

Luckenbach Explosion Report

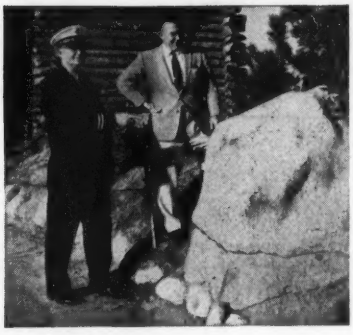
The National Board of Fire Underwriters has made public a 24-page report of the recent Brooklyn, N. Y., waterfront pier fire and explosion. This disaster, which occurred December 3, 1956, caused the death of 10 persons and injury to 244 others. The total property damage was approximately $10,000,000.

Investigation disclosed that the fire started in a cargo of over 25,000 pounds of ground foam rubber scrap, which was packed in burlap bags and stacked loosely near the center. The cause of the fire is attributed to sparks from an oxyacetylene torch used to repair cargo-handling equipment. Once the rubber became involved, the flames spread rapidly and overwhelmed the sprinkler system on the pier.

A violent explosion occurred on the south side. A large section of the concrete pier decking was shattered by the force and heavy steel sections were thrown hundreds of feet causing death and destruction.

The investigators later learned that a shipment of 37,000 pounds of "Cordeau Detonant Fuse" or "Primacord" had been stored at the approximate position of the craters. Since no other explosives were found, the indications are that this fuse, which is classified as a "Class C Explosive" under Interstate Commerce Commission regulations, exploded en masse. The fuse ingredient, pentaerythritetetranitrate (PETN), is a high explosive.

The report designates the problems that exist and makes five constructive recommendations for future fire safety.



KEEP YOUR EYE ON THE ROCK. Fire Chief Ben S. Meister points to rock at entrance of Fort Wilderness, Tom Sawyer Island, Disneyland, California, as Ross Hunt of Cylpro Co., Fullerton, Calif., a Quaker Pioneer Rubber distributor, waits for grand opening. What does Chief Meister have to do with a rock? See below.

"Rock" opens up into fire station

at FABULOUS DISNEYLAND!

The hose? Quaker Rubber's PETROCHEM!

Fire hose stored in a rock so it's right on the scene to protect visitors and property! A good idea, isn't it? And, if we may say so, they've chosen a good fire hose to carry the idea through. (It's Quaker's Petrochem, of course.)

Fire Chief Ben S. Meister tells us he picked Petrochem because it's lightweight, more cuff resistant than other hoses, resistant to mildew and easy to fold and handle in the small areas he has available.

All good reasons, Chief. And if we may add just one more, Petrochem is *strong*, too. Its oil-resistant Neoprene tube and wear-defying Dacron* jacket withstand 500 lbs. pressure and 300°F. temperature.

Chief Meister's needs are unique. Still Petrochem's many advantages are sure to help you, too. Get the whole story today from your nearby Quaker Rubber distributor. For free brochure, write:

H. K. PORTER COMPANY, INC., *Quaker Rubber Division, Philadelphia 24, Pa., or Pittsburg, Calif.*

*REG. T.M. E.I. DU PONT DE NEMOURS & CO.

HKP QUAKER RUBBER DIVISION
H. K. PORTER COMPANY, INC.

THE WATCH DESK

overhauling the firemanic news of the day

Donate pay increase to firemen

Recently the South Dakota State Legislature voted itself a pay increase of $450 as "expense money." Representative Edgar Gardner, a cattle rancher and strict conservative, turned his increase over to the Harding County Volunteer Fire Department "to get the money back to the people where it belongs and where it will do the most good."

Irving W. Johnson

Too Safe!

Maybe you haven't heard about former New York columnist Lucius Beebe and his fabulous rolling salon (one o printer), but take it from us, it's some Pullman.

Well, recently it was being redecorated to the lavish tastes of Mr. Beebe when a workman accidentally smashed the glass of a wall cabinet containing fire fighting equipment. Mr. Beebe, who now publishes Mark Twain's ancient weekly, "The Territorial Enterprise," was quite miffed about the mishap. "Don't worry," the worker calmly said, "I'll fix it."

And sure enough, when Mr. Beebe returned he found a new glass panel had been installed.

"You won't have to worry about that any more," the workman triumphantly assured him, "That's shatterproof!"

Irving Wallen Johnson

"I go for a DRAGON® FIRE PUMP every time!"

Give a fireman a choice and he's sure to go for the Dragon Fire Pump —the one designed from *his* point of view.

Dragon Fire Pumps come *completely assembled*. And because there's no pump packing to dry out, they're always ready for instant action, even after standing idle for long periods. The special harness is not only easy to get into, but designed so the pump rides high where it can't throw the fireman off balance or interfere with walking.

Dragon Fire Pumps fight fire *and* fatigue! Just a few easy strokes of the pump lever gives the operator a *continuous* flow of water he can direct right where it does the most good. And a mere twist of the shut-off nozzle gives either solid stream or spray *instantly*. What's more, a fireman using a Dragon Fire Pump can take his hands off both shut-off nozzle and pump lever to use rake, shovel, or other tool.

Specify Dragon Fire Pumps and get the pump designed with the *firefighter* in mind.

VALUABLE DISTRIBUTORSHIPS AVAILABLE, WRITE TODAY.

Dragon FIRE PUMPS

now available in 2 models

No. 150-S—Stainless Steel Tank

No. 150-G — Galvanized Tank: Cold-rolled steel, hot-dipped galvanized after fabrication.

All units equipped with brass pumps; all tanks seam welded. Capacity 5 gallons

DRAGON FIRE PUMPS meet Underwriters' Laboratories requirements and can be supplied with the UL label of inspection attached.

PARCO PRODUCTS COMPANY

PENNSBURG, PENNSYLVANIA

'Ain't nothing but a fire dog'

Paul Oberfoell, who farms near Sherrill, Iowa, recently told a Sherrill fireman that he almost had to call the department when his dog caught on fire.

It seems that "Old Shep" had laid down in some fuel oil and then parked himself near an open fire kindled under a large iron kettle for the purpose of heating water for hog slop. The weather was cold and "Old Shep" snuggled just a little too closely to the fire.

Oberfoell came on the scene just in time to see a ball of fire racing across the barn yard straight toward the open doors of the barn hay mow. The sight of impending disaster rooted the owner to the spot, not knowing whether to run for the phone and the fire department, or the dog.

Taking the latter course, he raced after the dog, removing his jacket to smother the fire. Luckily, the canine torch went out before it could come in contact with any loose hay. Oberfoell reported no damage to the barn and providentially only slight damage to "Old Shep."

Chief C. Baal, Jr.

1854 Fire Engine Brings $1

One of the first cases on record where local pride in fire fighters and fire apparatus of days gone by impelled citizens of a community to retain an historic fire fighting relic, was that exhibited by the civic-minded folk of Atlantic City, N. J.

On March 28 last, the city commission approved the sale of a fire engine dating back to 1854 for $1 to the Atlantic City Association of Insurance Agents.

Several months ago an out-of-town museum keeper offered to purchase the almost unnoticed antique. When the news became public, local pride took over and the commission was urged to keep the historic unit in town. Result was that the Association of Insurance Agents stepped in, paid the $1 and became the instrumentality to have the 'gine placed on display for posterity.

Irving Wallen Johnson

Firemen Have Rattling Good Time

Mrs. Robert E. Zink of Nashville, Tenn., was sure she heard something like a snake crawling around in her attic so she moved in with relatives. A neighbor declined to look into her attic for her. Said he was scared too! So-o-o they called the "Brothers."

Firemen put on hip boots and spent several hours watching for the snake but nothing showed up. They returned a day or so later with one of the men wearing an asbestos suit. Thus protected, the fire-

men's snake hunt began again in earnest. Sure enough it was a snake, and a rattler at that. The snake eluded the men by slithering down into a wall. The firemen brought back a skin the snake had shed to prove their story.

Mrs. Zink and the firemen are wondering what to do next. □□

Hot Off the Tape

A woman was killed and eight others, including four firemen, were injured March 30 when an auto and a fire truck collided at an intersection in Lockport, N. Y. Fire apparatus was en route to a grass fire. . . . Mrs. Louise Falk Reeve, socially prominent widow from Milwaukee, died March 28 at a guest resort in Palm Springs. Cause—suffocation resulting from cigarette . . . Speaking of cigarettes, station house statisticians may like to record the fact that last year there were 392 billion cigarettes smoked, or 171 packages for each person 15 years of age or older. This year will set new records, 'tis said. . . . Here's another one on cigarettiquet: In Malone, N. Y., Mrs. Berla Shields, 56, died March 27 in a fire in her home. Remains were found on a porch divan. Fire Chief Philip E. Clark said she apparently fell asleep while smoking. . . . "Hot and sweet" is the way press reported a fire in Randolph, Vt., in which maple syrup was used to extinguish a blaze in Alcide Jacques' sugar house. . . . Near Farmville, Va., Mrs. Lucille Lee left her four children alone while she went to attend to a cow in a nearby lot. Came a flash fire that destroyed the one-story frame house, killing all four. . . . Washington Engine's vamps of the Peekskill, N. Y., Fire Department were given lots of thanks for quelling a "very bad brush fire at St. Mary's School." They hadda yell for help themselves when their truck got stuck in the mud. Highway department tractor yanked 'em out. . . . Dairyman W. D. Evans of Concord, Va., isn't crying over spilled milk—50 gallons of it. He used it to douse a fire in the bathroom of his sister-in-law. He was loading milk truck when he received her frantic phone call. He sped to the fire with 100 gallons of the stuff in 10-gallon drums; went to work! Evans is getting kinda used to milk booster tanks. He put out a tractor fire several years ago. Yeah, just milked it to death. . . . Page Ripley! Fire in an elevator at the stage entrance of the Radio City Music Hall, New York City, brought the brothers. No injuries, little damage. Seems rubber matting wrapped around the cage ignited. . . . Toledo firemen rescued 100 from upper floors of the Paramount Building March 13 when a shoe store let go. Wasn't much of a fire, but a smoky one. . . . Out in Lebanon, Ore., the annual vamp's banquet was a roaring success. All hands dashed out on two fire calls during the evening. What—no stage show? . . . The errant press reported it this way: "MILWAUKEE, Feb. 28 (UP)—Fire destroyed a major portion of a Milwaukee road roundhouse tonight, causing an estimated $50,000,000 damage. No one was injured." Bang goes Chief Wischer's yearly losses! □□

NOW... Handle Fallen Wires Safely, Quickly, with an EXTENDO Saf-T-Pole

- **16' - 20' - 24' - 28' lengths. Telescope to 4½'.**
- **Non-Conductive — tested to 100 KV per foot.**

New! The fiberglass Extendo Saf-T-Pole permits rapid, safe handling of emergency fallen wires. Light weight, compact, easy to store and use, a Saf-T-Pole should be standard equipment on every fire and rescue vehicle.

- Fiberglass is non-conductive. High dielectric properties make it safe for personnel handling wires.
- Light weight. Telescopes to full length (16' - 20' - 24' - 28') easily. Sections lock securely for push-pull operation.
- Bronze push-pull head for wire handling. Interchangeable with universal tool head for other line work.
- The Saf-T-Pole is also an excellent ice-rescue tool. Strong and sturdy, the fiberglass is double reinforced at joints for extra rugged use.

ORDER YOUR Saf-T-Pole

TO: Orchard Industries, Inc., Dept. FE-1, Hastings, Michigan

Gentlemen:

Rush me a fiberglass Extendo Saf-T-Pole.

☐ 16' Extendo Saf-T-Pole @ $40.00 ☐ 24' Extendo Saf-T-Pole @ $64.50
☐ 20' Extendo Saf-T-Pole @ $52.00 ☐ 28' Extendo Saf-T-Pole @ $78.50

Company or Fire Department_____

City_____ State_____

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AMONG THE BUFFS

By Paul C. Ditzel

SAD TO SAY, one of the nation's best known and liked fire buffs, Joseph L. Hallett, died suddenly and was buried May 11th at his home town of Norwell, Mass. Constant readers of this column will recall that just last month Joe sneak previewed his 1957 edition of "The Visiting Fireman." Buffs all over the country will, I know, express their sympathy to Joe's family. I never had the pleasure of meeting Joe but from his frequent and friendly letters I counted him as a good friend.

Word of Joe's passing was sent to us by Phil McMahon of the Chicago Fire Alarm headquarters which got quite a scare recently when a 5-11 blaze roared through bottom floors of their City Hall building.

An overnight fast freight train ride in connection with my public relations work for the Southern Pacific Railroad took me to San Francisco recently where I spent a little time with demon firefan Doc Levin of The Phoenix Society. For several years I've been receiving copies of Doc's very excellent newsletter, "The Phoenician News," and learn from the current issue that he's been elected RA of the Phoenicians.

It took this momentous event for me to finally learn Doc's first name and hereinafter the potentate of the Phoenicians will be known as "Irving" to readers of this column. Don't figure on being in San Francisco again for several months so I'm temporarily safe. Doc—excuse me—Irving, introduced me to the city's comparatively new chief, William Murray, whose ambitious plans for the SFFD are being well received by the men and called to the public's attention by the Phoenicians. We hope that Doc will keep us posted on changes.

Speaking of visiting with old friends, we met Editor Roi Woolley in the lobby of the Hotel Statler recently during the National Fire Protection Association's annual meeting in Los Angeles.

Roi, who turned his fire buffing into a career as a nationally recognized fire authority, has always been a close friend of this column and says he hopes buffs across the country will get behind FIRE ENGINEERING's jumbo 80th anniversary coming up in August. The theme of the issue will be "Progress of the Fire Service" and Roi would like to see you buffs forward to this column (address below) anything you have that touches upon the earliest history of buffs so that we can relate buffing to the days past and show how it is a carry over from the early volunteer days.

Speaking of anniversaries, the Fire Bell Club of New York City held its 18th anniversary dinner on April 22nd. This group is one of the oldest and best known buff clubs in the country. Its officers include John F. Connell, M.D., president; William Leavy, vice president; Irving Herschbein, secretary and George R. Morris, treasurer.

Comes now Charles D. Heseltine of the South Portland, Maine, Fire Prevention Bureau, to offer you collectors a choice item on a first come, first served basis:

"Over the years we have received requests for copies of our department's running book," he writes. "We have been unable to honor these requests because of the limited supply on hand. Currently, however, a new running book has been issued and we have a hundred or more old running books on hand which may be of interest to some of your readers.

"They may have a copy of the old book by writing me at the bureau, 306 Main Street, and enclosing 10 cents to cover cost of wrapping and mailing."

More on sun interference. This time Luther M. Price, fire captain at the U. S. Naval Air Station, Box 14, Roosevelt Roads, Puerto Rico, reports:

"Your speaking of sun spots interference (in a recent column) must be what happened to us one Sunday afternoon. We were all taking advantage of the Sunday holiday routine when suddenly an alarm was received over the radio reporting an airplane crash near the vicinity of the airfield.

"The alarm operator sounded the crash alarm and the crash trucks started out to look for for the crash. No crash. Very embarrassing to all concerned and the crash was actually in Jacksonville, Fla. The alarm came in very loud and clear and it fooled us all."

Same type of news comes from Buff

Dependable—Convenient

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2-WAY RADIO TELEPHONE

- HAND-CARRIED. EXTREMELY COMPACT.
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- RELAY SQUELCH. SILENCE BETWEEN CALLS.
- CONNECTOR FOR POWER SUPPLY. SAVES BATTERIES.
- WITH UPC-100, OPERATES FROM 6, 12, 24 VDC AND 117 VAC.
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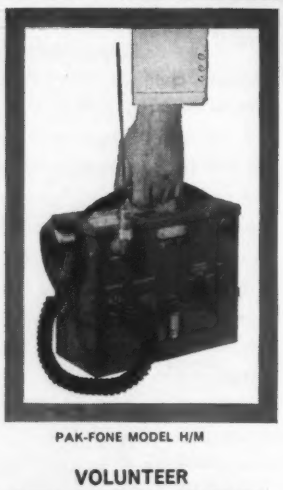

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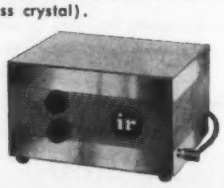
The most sensitive receiver on the market. Compares with sets costing 3 times as much. Models for car or home use. Priced as low as $99.00 (less crystal).



Write or wire today for a demonstration in your community or send for literature.

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Paul McKenney of 102 Charles Street, North Abington, Mass.

"I read your article in FIRE ENGINEERING about a buff in Nashville, Tenn., who picked up the Los Angeles Fire Department on his radio. The receiver in our station in North Abington picks up both departments quite well and has for quite some time. The Abington Fire Department is on the Plymouth County network and the call letters are KCD-823."

Secretary Harold P. Mackey of the Box Fifty-Four Club, Fire Headquarters, Teaneck, N. J., reports that group held its second "Open House" on May 6th. Officials and firemen from most of Bergen County's 70 municipal departments attended. Guest of honor was Township Fire Chief William Lindsay who was given a white chief's helmet and congratulated by all hands for his recent succession to the top fire post in Teaneck. Among other buff clubs attending were: The 255 Club of Brooklyn, Bell and Siren Club of Newark, Gong Club of Jersey City, Ridgewood Fire Service Canteen, Third Alarm Association of New York, Hoop and Hammer Club of Hillside and President William E. Conradi, Sr., of the International Fire Buffs Association.

Striking it out again for this month I might remind you that the address remains the same: 4234 Don Diablo Drive, Los Angeles 8, California. (The zone number being for John Phil MacMahon's benefit.) Please keep the anecdotes and club news rolling in. □□

ATLANTIC CITY HOTEL FIRE

Continued from page 533

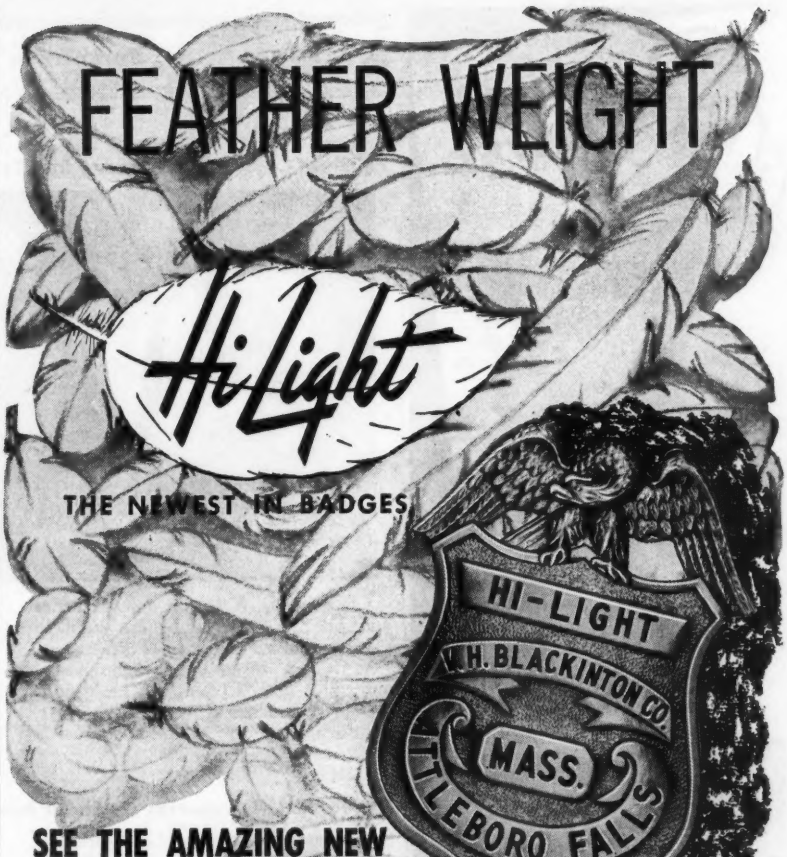
were allowed to return to their homes soon after.

Several firemen were treated on the scene for cinders in their eyes and three were hospitalized for minor injuries and released. In the excitement of evacuating homes in the threatened area one resident suffered a heart attack and died before an auxiliary police ambulance could get him to the hospital.

Linemen from the Atlantic City Electric Co. assisted the firemen by cutting power lines that were threatened by the fire. During the fire fighting operations the Salvation Army brought in its mobile canteen and served coffee and doughnuts.

Reward offered

According to Lester J. Jackson, Chief of the Fire Prevention Bureau, the fire was of incendiary origin. He stated that the building in which the fire started was unoccupied and all electric current was shut off. He assigned an investigator from the bureau to check all suspicious leads and in addition, personally offered a reward of $200 for information leading to the arrest and conviction of the arsonist. He also stated that pending the outcome of the investigations, the insurance adjustments would be held up. Loss to the Merion Hotel was estimated in excess of $175,000 and to the Sunnyside Hotel at more than $85,000. □□



SEE THE AMAZING NEW HI-LIGHT BADGE BEFORE YOU ORDER FOR SUMMER

Once you have seen and handled the amazing new HI-LIGHT metal badge, you'll want no other for your summer wear.

Think of it — a badge that's two thirds lighter than your regular badge, in fact it's so light you hardly know you're wearing it. In spite of its feather light weight, your HI-LIGHT metal badge is durable and it's made with the same high quality deep cut precision die work and gleaming finish that has made BLACKINTON badges famous.

ASK YOUR EQUIPMENT SUPPLIER ABOUT THE MANY POLICE AND FIRE BADGE STYLES THAT ARE NOW AVAILABLE IN THE NEW *HI-LIGHT* METAL.

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Please send me your free and complete information on BLACKINTON badges.

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ELKHART WIRE CUTTERS

Elkhart's wire cutters are designed particularly for the fire service. Features a hook for quickly locating an overhead wire even in the dark. Powerful cam operated hardened tool steel jaws make quick work of any electrical wire up to ⅝" diameter. Jaws removable for sharpening. Has heavily insulated handles and protective shields.

WRITE FOR DETAILS

ELKHART
BRASS MFG. CO., INC.
ELKHART, INDIANA

"More than half a century of fire fighting progress"

Persons in the News

Fairfield County Emergency Plan Elects

Officers elected at the annual dinner and business meeting of the Fairfield County, Conn., Fire Chiefs Emergency Plan on May 16 are left to right: Assistant Chief John F. Gleason, Bridgeport, second vice president; Orville A. Sawyer, Sound Beach, sergeant-at-arms; William G. Hennessey, Bethel, secretary; Louis Catlin, Sr., Shelton, third vice president; Lawrence M. Ford, Redding Center, president; and John Pickering, New Canaan, first vice president. *Tom Magner*

Research Laboratories Engineer honored by Army

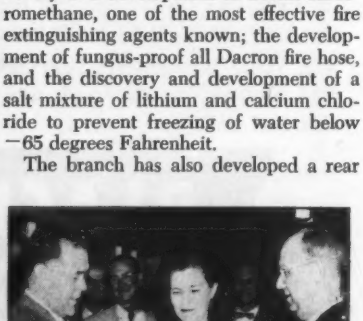
A Meritorious Service Certificate and Pin, one of the higher honors for outstanding civil servants, has been awarded to Theodoric B. Edwards of the U. S. Army Engineer Research and Development Laboratories, Fort Belvoir, Va. The certificate was presented to Mr. Edwards for meritorious performance as Chief of the Laboratories' Fire Fighting Branch.

Outstanding achievements by the Fire Fighting Branch under Mr. Edwards' direction and leadership include the discovery and development of Bromotrifluoromethane, one of the most effective fire extinguishing agents known; the development of fungus-proof all Dacron fire hose, and the discovery and development of a salt mixture of lithium and calcium chloride to prevent freezing of water below −65 degrees Fahrenheit.

The branch has also developed a rear engine, front cab fire truck, which permits the use of large engines for high performance with safety and makes effective winterization possible. This arrangement is now being adopted by the Air Force and the Navy on the newest crash trucks and is embodied in the new fire truck used by the Army for guided missile fires.

Other developments are the first piece of fire apparatus using 7450-rpm pumps driven by 400-cycle electric motors, a special 400-gallon trailer for use at Nike guided missile sites, and an emergency pipeline for atomic warfare fire fighting including hose, lightweight pipe and a novel electrically operated submersible pump.

In addition to directing the development work by the Branch, Mr. Edwards has been awarded several patents, including one for a self-contained vehicle space heater for Arctic use, and another for a remote controlled fire fighting turret and nozzle.



Theodoric B. Edwards is presented Meritorious Civilian Service Certificate and Pin by Col. H. F. Sykes, Jr., as Mrs. Edwards looks on—*U. S. Army Photograph*

Warner Chief of Inglewood

Nicholas Warner has taken over command of the Inglewood, Cal., Fire Department, replacing Chief Bacil A. Roberts who retired March 30. Chief Warner has been with the Inglewood Fire Department for 18 years and recently served as battalion chief in charge of training.

The Los Angeles suburb has been adding fire personnel, and now operates five engines, one ladder and one squad from four fire stations.

Cliff Dektar

A. J. Mullaney Fire Consultant

Anthony J. Mullaney, former fire commissioner and chief fire marshal of Chicago, has announced the formation of a fire protection and safety consulting service for communities, commerce and industry. The scope of the services will include plant fire protection surveys including organization and training of personnel in fire prevention and control; special fire protection and safety measures for hotels, hospitals, institutions and public assembly facilities; and municipal fire protection surveys.

Chief Mullaney is eminently qualified for the service, having served 43 years in the Chicago Fire Department. For 24 years he was in the top command post of either assistant chief marshal or chief marshal, and for 10 years served as Civil Defense director of the city. He was the first uniformed fireman elected as a director of the National Fire Protection Association.

During World War II, his fire prevention ideas were adopted in over 400 plants doing war work. Following the war he assisted the War Department in the surveys of German cities to assess the damage caused by aerial bombardment. In 1947 he organized the disaster relief plans for Chicago, and when he became CD director in 1950, the plans became the nucleus of the city's Civil Defense operations.

Chief Mullaney will maintain his offices at Suite 1276, 140 South Dearborn Street, Chicago 3, Ill.

ASBURY PARK HOTEL FIRE

Continued from page 533

the apparatus and were shaken up but otherwise uninjured.

Avon firemen reported that the seat of their aerial was burned when the ladder, operating on the south side of the hotel, was caught in a shower of sparks.

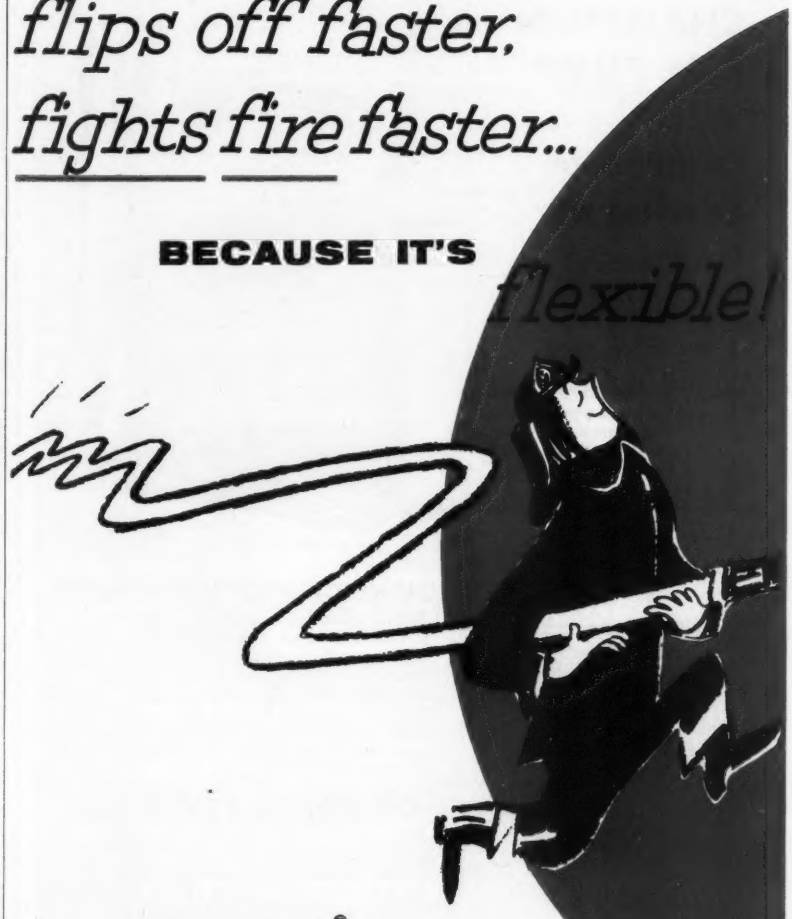
Fire Chief Edward Hutchinson, on sick leave because of injuries received in an auto accident, was on the scene despite his left arm being in a cast. He aided in the placement of apparatus. As many as 15 pumpers were operating at one time. When the combined efforts of the pumps began taxing the city's water system, four additional pumpers were dispatched to the shores of Deal and Sunset Lakes, less than two blocks distant, to augment the supply from draft. After six hours the fire was brought under control. All out-of-town companies were released at 6:00 a.m., March 1st; the Asbury Park companies were at the scene until noon of the same day.

Chief Hutchinson, who estimated the damage total at $500,000, suspected arson and notified the National Board of Fire Underwriters in order to obtain assistance from skilled investigators. He said that when firemen arrived they found doors and windows on the north side of the Hotel Columbia open, allowing the high wind to fan the flames into an inferno. In addition a series of explosions occurred in the fire's early stages.

As soon as the ruins were cool, Chief

folds flatter, flips off faster, fights fire faster...

BECAUSE IT'S *flexible!*



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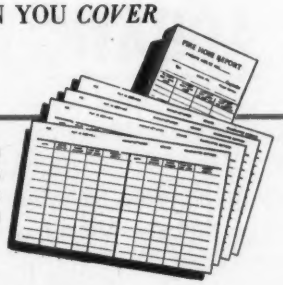
BI-LATERAL ACTUALLY *DOES* LOAD 25 to 40% *MORE* HOSE on the PUMPER—AND IT ACTUALLY *IS* EASIER TO HANDLE... WHICH REALLY *DOES* MEAN YOU *COVER MORE FIRE FASTER!*



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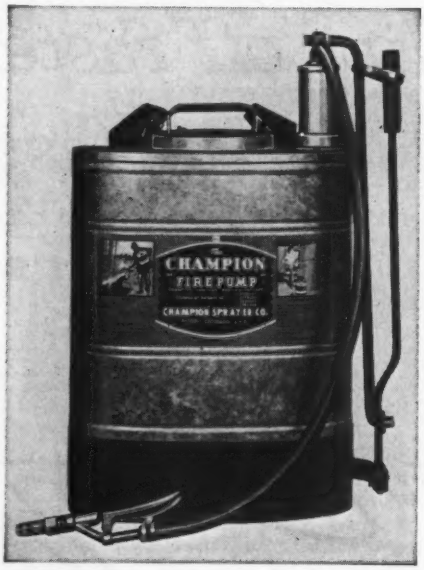
24 years a fire fighter!

CHAMPION* FIRE PUMP
makes "a little spray go a long way toward knocking down a lot of flame"

The Champion of 1933 was the first piston-type knapsack sprayer patented in the U. S. Today's model, the result of many improvements throughout the years, can do a big firefighting job for you.

*TRADE NAME REG. U.S. PAT. OFF.



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Form-fitting back on both models guards operator's back against chill and condensation.

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The continuing popularity of the Champion is due to its dependable, simple operation and its efficient control of water. Pressure is pumped as needed, nozzle adjusts quickly from heavy fog to 30-ft. stream, ventilated form-fitting back for comfort in all weathers, large leak-proof cover for fast filling. All working parts are of brass for long life.

← **CHAMPION SLIDE-TYPE PUMP**

This model gives operator free use of his hands when not operating slide-action pump; hose at top prevents water from running out when pump is below bottom of tank. Convenient carrying handle.

Free literature describes both models. Distributorships available — write for details.

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Manufacturer of Portable Sprayers and Dusters
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AQUATIC EQUIPMENT COMPANY
Box 563, Des Moines, Iowa

Hutchinson, County Detective Captain William Mustoe and George Scherff, arson investigator of the National Board, began an intensive inquiry in an attempt to determine the exact cause.

Chronology of response:

First alarm—Asbury Park Engine 1, High Pressure 1, Aerial 1

Second alarm—Asbury Park Engines 2, 3, 4; Hose 4, 6; Aerial 2

Mutual aid—Allenhurst pumper, aerial and light squad; Wanamassa pumpers (2) and light squad; Ocean Grove pumper, hose and aerial.

Disaster aid—Avon pumper and aerial; Neptune City pumper; Bradley Beach pumpers (3); Oakhurst pumpers (3); Whitesville pumper; Unexcelled Co., Neptune Twp. pumper and aerial.

Companies moving up — Wayside pumper to Wanamassa; Deal pumpers to Allenhurst and Oakhurst; Long Branch pumper to Asbury Park Hq.; Ocean Grove pumper to unexcelled district.

—*Frank L. Wilgus*

RESCUE

Continued from page 532

begun. Mr. Stiriz conferred with Chief Zaleski on the method to be employed and it was decided that the standard CD tunneling procedure of digging and shoring with timber would be used. With 2 x 6 planks and frames, the work proceeded for about 2½ feet when the sugar-like sand caved in. Rescuers were twice buried up to their hips and one man had to receive medical attention.

Chief Zaleski and Mr. Stiriz again conferred and it was decided to use corrugated culvert pipe for the purpose. The Riverhead Highway Department brought a 10-foot length of the material to the scene and the rescue squad cut this into 4-foot lengths with acetylene torches. The first section of pipe was 4 feet in diameter. Additional sections were cut lengthwise by torch and then welded together in such a manner that they would telescope within the first section.

The pipe sections were then placed in position and driven into the sand by means of heavy screw jacks. Rescue men then removed the sand from the inside of the pipe and it was hauled to the surface by means of pails and debris buckets. In the meantime, the Brookhaven Atomic Energy Laboratory had sent three 4-foot telescopic sections of smooth steel drums to the scene. This pipe was much easier to force into the sand. Gradually the pipe was forced out its full length and the sand removed.

At 7:32 p.m., Sam Woodson, a construction worker who was an employee of the contractor in charge, reached the boy and pulled him into the rescue tunnel. Immediately the sand caved in on top of both. John Rambo and John Remick, CD rescue squadmen who had been on the scene continuously from the start, pulled them out. The boy was taken to the hospital in the Moriches community ambulance.

A continuous supply of oxygen and the skill and determination of the coordinated services saved Benny Hooper's life.

Conclusions

The nature of the sandy soil made conventional tunneling procedures impossible. Chief Zaleski recommended to his superiors that ¼-inch stock smooth steel drums about 4 feet in diiameter and telescoping to a length of 24 feet, be procured for future use. He also recommended that communications be improved by supplying walkie-talkies to rescue personnel. In the operation it was necessary to travel nearly one mile to the nearest available phone. One radio at each point would have saved much valuable time.

The Board of Supervisors of Suffolk County in a resolution, publicly thanked all who participated in the incident and singled out the contractor and his men, the police and fire departments and Civil Defense for the part they played in this remarkable rescue effort. In addition, the Community Developers Council presented "Hometown Hero" awards to Sam Woodson, Chief Edward Gadzinski, Riverhead Fire Department; John Stachnik of the Eastport Fire Department; Gus Formhals, Manorville Fire Department, and Alex Pendzick, Center Moriches Fire Department. These men were singled out from among the 75 firemen, 23 rescue squad members and the more than 50 volunteer civilian workers who participated in the rescue. □□

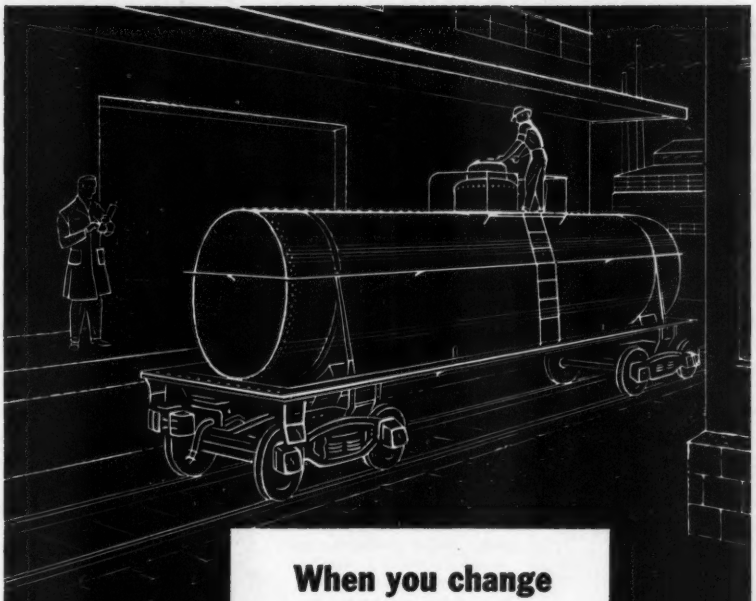
The Editors of FIRE ENGINEERING *wish to thank John L. Barry, Civil Defense Director, Suffolk County, for the information taken from the official reports of the rescue, upon which this account is based.*

Firemen Face Arson Charge

Five members of the West Brighton, N. Y., Volunteer Fire Department were arrested recently and accused of starting seven minor blazes in the Rochester suburb. Police said four of the men admitted the acts "just because they liked to go to fires." The four were charged with arson and ordered held for the grand jury. The fifth man asked for a hearing and was released on bail.

Police made the arrests after investigating a fire in an unoccupied chicken coop about one-half mile from the department's Station 2. Detectives found a kerosene can at the scene and footprints which led from the fire across lots to the fire station. Checking on the kerosene led the officers to a gas station across the street from the fire station which is operated by two of the accused men. Police then obtained the information that resulted in the arrests.

Fire officials said the four men held for the grand jury had been members of the department only a short time, and that they were always first at the fire house when an alarm was sounded. Beside the chicken coop the men were said to have admitted setting six grass fires in the past two months.—*Perry O. Popp*



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Coming Events

June 21-22—Iowa Association of Fire Fighters. Annual meeting, Council Bluffs, Iowa. For information, contact D. A. Baxley, Convention Co-Chairman, Fire Station No. 2, Council Bluffs, Ia.

June 23-26—New England Association of Fire Chiefs. Annual meeting, Wentworth-by-the-Sea, Portsmouth, N. H. Secretary-Treasurer, John W. O'Hearn, 206 Mt. Auburn Street, Watertown 72, Mass.

June 27-29—International Fire Buff Associates, Inc. Annual meeting, Cincinnati, Ohio. For information, write Robert Wren, 3430 Saybrook Avenue, Cincinnati, Ohio.

July 8-9 — Southeastern Association of Fire Chiefs and Tennessee State Firemen's Association. Joint meeting, Nashville, Tenn. Secretary-Treasurer, Southeastern Association, Chief G. A. Mitchell, Fire Headquarters, Opelika, Ala.

July 13—Suffolk County Volunteer Firemen's Association. Annual parade and drill, Bohemia, N. Y. For information, contact Allen Behounek, Smithtown Avenue, Bohemia, N. Y.

July 15-17—Michigan State Fire Chiefs Association. Annual meeting, Holland, Mich. Secretary-Treasurer, Harry L. Ridout, Chief of Fire Department, Muskegon Heights, Mich.

July 16-19—Pacific Coast Inter-Mountain Association of Fire Chiefs. Annual meeting, Portland, Ore. Secretary-Treasurer, Jay W. Stevens, 1014 Merchants Exchange Building, San Francisco 4, Cal.

July 25-27—Ohio Fire Chiefs Association. Annual meeting, Springfield, Ohio. For further information, write Chief Willard G. Compton, Division of Fire, 350 North Fountain Avenue, Springfield, Ohio.

July 27—International Firemen's Day. Annual meeting, Gananoque, Ont., Canada. Secretary, Gerald F. Hampton, Gananoque, Ont., Canada.

Aug. 7-9—Indiana Firemen's Association. Annual meeting, Indianapolis, Ind. For information, contact the Indianapolis Fire Department, Indianapolis, Ind.

Aug. 17-24—Macomb County Firemen's Association. Annual regional fire school, Mount Clemens, Mich. For information contact Fire Marshal Walter O. Jacobs, St. Claire Shores Fire Department, St. Clair Shores, Mich.

Aug. 18-23—Firemen's Association of the State of New York. Annual meeting, Elmira, N. Y. For information contact the headquarters of the Association, Hotel Martinique, Broadway at 32nd Street, New York 1, N. Y.

Aug. 25-27—New York State Permanent Firemen's Association. Annual meeting, Syracuse, N. Y. For further information contact Robert E. Mills, Secretary-Treasurer, 420 Plymouth Drive, Syracuse 6, N. Y.

Sept. 8—Great Lakes Association of Fire Chiefs. Annual meeting in conjunction with International Association of Fire Chiefs, Hotel Jung, New Orleans, La. Secretary-Treasurer, Chief Elmer Stough, 605 - 4th Street, Lorain, Ohio.

Sept. 8—Southwestern Association of Fire Chiefs. Annual meeting in conjunction with International Association of Fire Chiefs, New Orleans, La. Secretary-Treasurer, Dr. B. J. Barrodale, 275 Gabasse Street, Houma, La.

Sept. 8-12—International Association of Fire Chiefs. Annual meeting, New Orleans, La. Secretary-Manager, B. Richter Townsend, Suite 1306, 232 Madison Avenue, New York 16, N. Y.

Sept. 12-14—West Virginia State Firemen's Association. Annual meeting, McMechen, W. Va. For information contact Edgar Gallagher, Convention Chairman, McMechen Volunteer Fire Department, McMechen, W. Va.

Sept. 12-14—Westchester County Volunteer Firemen's Association. Annual meeting. Briarcliff Manor, N. Y. For information, contact John R. Bailey, Secretary, Box 1, Baldwin Place, N. Y.

Sept. 13-14—Jefferson County Volunteer Firemen's Association. Annual convention and tournament, Alexandria Bay, N. Y. Secretary, Lewis Z. Horr, Great Bend, N. Y.

Sept. 14—Jamestown Fire Department Association. Annual fire prevention parade. For in-

formation, contact Martin Hagstrom, Parade Secretary, Jamestown Fire Department, Jamestown, N. Y. All fire departments are invited to participate in this parade which is the kick-off to the fire prevention program.

Sept. 16-19—**Canadian Association of Fire Chiefs.** Annual meeting, Kentville, N. S. Secretary, Chief Allan H. Clark, Fire Headquarters, Lakefield, Ont.

Sept. 16-19 — **International Municipal Signal Association.** Annual meeting, Miami Beach, Fla. Secretary, Irvin Shulsinger, 120 West 42nd Street, New York 36, N. Y.

Sept. 17-18—**Iowa Firemen's Association.** Annual meeting and tournament, Chariton, Ia. For information write Secretary-Treasurer Carl H. Fuchs, 2749 Kinsey Avenue, Des Moines 17, Iowa.

Sept. 22-26—**California State Firemen's Association, Inc. Annual meeting, San Mateo, Cal.** For information, contact E. L. Albrecht, Sr., Secretary-Treasurer, 755 - 17th Street, San Bernardino, Cal.

Oct. 16-18—**Indiana Fire Chiefs Association.** Annual meeting, Evansville, Ind. For information, contact the Evansville, Ind., Fire Department.

Oct. 31-Nov. 2—**International Rescue and First Aid Society. Annual meeting,** Sheraton-Ten Eyck, Albany, N. Y. Executive Secretary, Max L. Spray, 101 North Alfred Street, Alexandria, Va.

Questions and Answers

Testing Demand Mask Tanks

To The Editor:

Is it necessary to test demand mask cylinders every five years? The chief of our department has ordered that we shall not recharge any mask cylinder that is more than five years old and has not been tested.

T. G.

Answer: We have been informed by one of the mask manufacturers that your chief is following correct procedure. It is necessary to test the cylinders at least once in five years for safety purposes.

Facilities for making the tests are available at the plants of large gas suppliers, but in most cases, it would be more convenient to contact the manufacturer of the mask who will perform the test for you.

Wet Water Advantages

To The Editor:

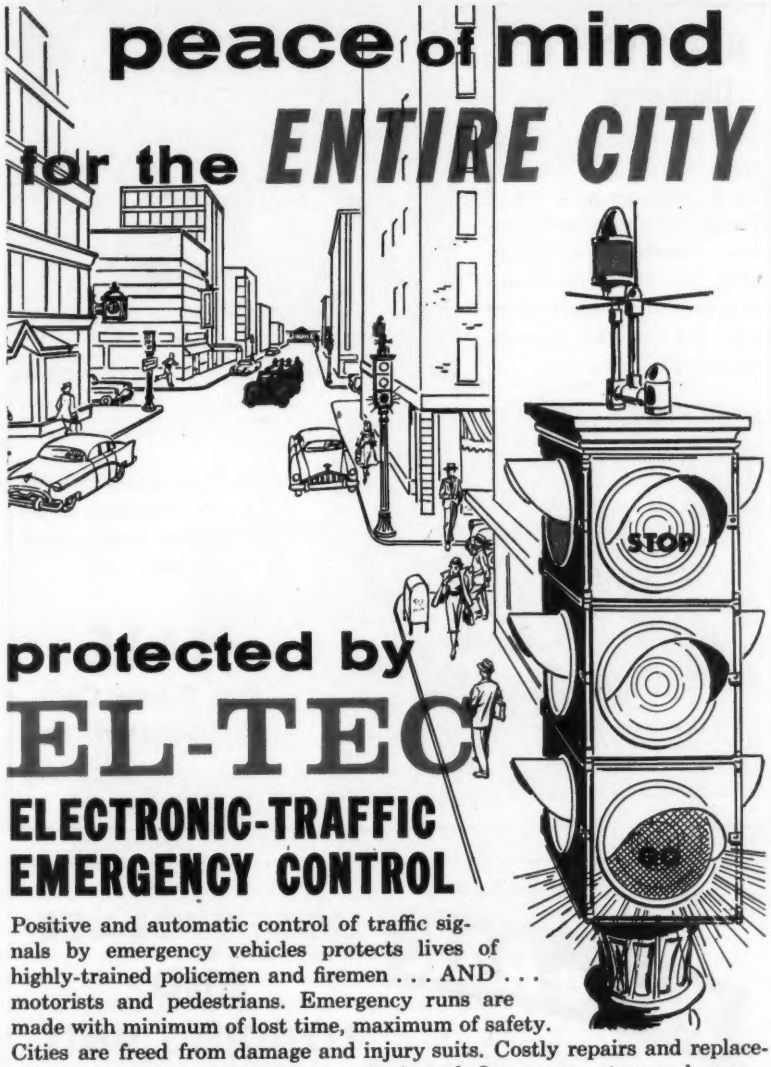
What are the technical and practical advantages of "Wet-Water"?

H. J. D.

Answer: The technical advantage of "wet water" is that it reduces the surface tension of the water which facilitates greater surface contact and penetration. This factor leads to the following practical advantages:

1. Less water is required to extinguish a fire.
2. The extinguishing time is materially shortened.
3. Effectiveness of the water is increased in Class "A" and Class "B" fires.
4. Deep seated fires such as might be encountered in upholstery, baled paper or cloth, etc., are more easily handled.
5. Runoff of water used in extinguishing a fire is generally less, which results

peace of mind for the ENTIRE CITY



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Positive and automatic control of traffic signals by emergency vehicles protects lives of highly-trained policemen and firemen . . . AND . . . motorists and pedestrians. Emergency runs are made with minimum of lost time, maximum of safety. Cities are freed from damage and injury suits. Costly repairs and replacements of wrecked equipment are eliminated. Insurance rates are lower.

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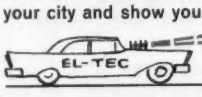
WRITE FOR DEMONSTRATION An EL-TEC portable demonstrator can come to your city and show you how EL-TEC works. Write today for an appointment.



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HALE TYPE "BL" Discharge Valve

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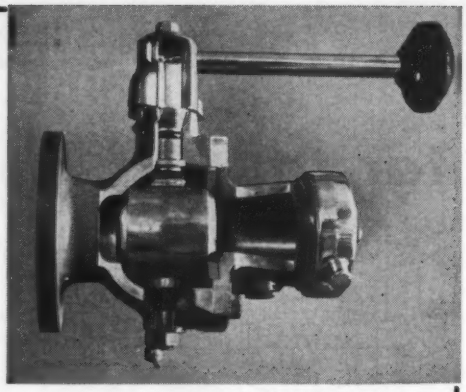
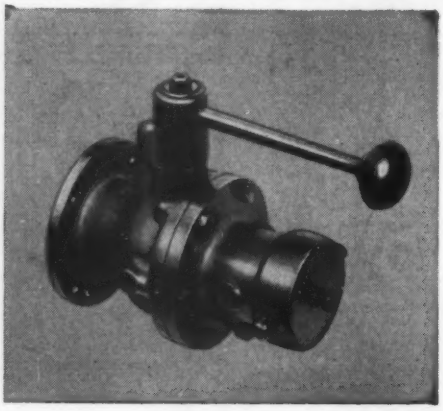


Above—View of BL Valve cut away to show internal construction. Valve is in open position with cap on.



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PORTO-RAK holds 1800 feet of 2½" hose and proportionally more of 1½" hose in an 8½ foot space (loading table detached). Easy, convenient to use. Roll it right up to the truck for complete hose reload—out of the way when not in use. Equipped with locking fiber-wheeled casters. **Why lug hose? Let *PORTO-RAK* do the work!**

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in smaller water damage and increased salvageability of material.

In addition it has proven effective on many types of rubber fires which formerly resisted the effects of water. When used with fog streams it has proven effective on gasoline fires where plain water fog was of little value.

Tests conducted by the Underwriters Laboratories, Inc. on cotton bale fires offer an excellent comparison. It required 12 gallons of water treated with a wetting agent to extinguish a bale fire over a 24-hour period. A similar bale was not extinguished in the same time period, even though 399 gallons plain water had been used in the attempt.

Exam Question On Backpressure

To the Editor:

I would appreciate very much any help you can give me with the following problem given in a recent promotion examination.

"An engine is pumping through two lines of 2½-inch hose, each 600 feet long and siamesed into 100 feet of 2½-inch hose; line is equipped with a 1⅛-inch tip. To operate from the fourth floor fire escape landing of a building at 50 psi nozzle pressure what pressure would you order at the engine?"

I used the formula E.P.=N.P.×1.1+(K×L) and my answer was the same as civil service at this point: 99.5 psi.

In solving for back pressure the examiners used three floors at 12 feet per floor or 36 × .434=15.6 psi. Their final answer was 115.1 psi.

I solved in the same manner but I added 4 feet additional in order to operate from the rail of the fire escape. I then added 2 more pounds as friction loss in the siamese connection. My answer was 119.8 psi.

Should I receive credit for working back pressure to the height of the rail at the fire escape landing? According to Fred Shepperd's hydraulic book, friction loss in a siamese connection may vary from 2 pounds where the flow is 300 gpm to 14½ psi where the flow is 1400 gpm. Should I not receive credit for the additional loss in the siamese?

V. N.

Answer: The solution to your problem is found in the wording of the original examination question. It does not state that the line is to be operated from the rail of the landing and therefore the additional back pressure is incorrect. The inclusion of siamese loss is generally unnecessary when hand lines are employed. The standard formulas take this into account.

Aerial cut in two by train

On April 2, a Burbank, Calif., aerial ladder was cut in two by a 92-car Southern Pacific freight train. No one was killed but Tillerman Bill Davies was thrown 75 feet and suffered possible fractures of the skull and arm. The truck was a total loss.

Irving W. Johnson

FIRE COLLEGES

Arizona State Fire Training School—Oct. 17-19, Phoenix. Director, Battalion Chief Jake Siken, Fire Fighting Instruction Supervisor, 49 South First Street, Phoenix, Ariz.

Florida State Fire School, Aug. 5-9—**Arson Investigation and Detection Seminar;** Sept. 9-13 — **Units 101,** Tools, Forcible Entry, Breathing Apparatus; **107,** Arson Detection; 208; Fire Department Administration. Sept. 16-20, **Units 102,** Hose and Ladders; **106,** Fire Inspection; **204,** Fire Fighting Tactics. Sept. 23-27, **Units 103,** Rescue, Ventilation, Salvage and Overhaul; **105,** Fire Apparatus and Pumps; **206,** Fire Prevention and Protection. Sept. 30-Oct. 4—**Units 104,** Fire Streams; **201,** Instructor Training; **202,** Company Officer Training. Director, W. H. Barnett, P. O. Box 785, Ocala, Fla.

Idaho State Fire School—Aug. 15-17, Boise, Ida. Director, Chief Steve Taylor, Fire Headquarters, Boise, Ida.

Indiana State Fire School—Sept. 10-13, Purdue University, Lafayette. Director, Professor Shelby Gallien, Public Safety Institute, Purdue University, West Lafayette, Ind.

Kansas State Fire School—October 21-24, University of Kansas, Lawrence. Director, Clyde A. Babb, 111 Fraser Hall, University of Kansas, Lawrence, Kans.

Louisiana Arson and Fire Prevention Conference—July 9-11, Montaleone Hotel, New Orleans, La. For information contact, John E. Coon, State Fire Marshal, New Orleans 16, La.

Maryland Fire College, Fire Service Hydraulics Short Course—June 27-29. **Short Course for Operation of Aerial Ladders**—August 5-7. **Annual Short Course for Firemen**—September 3-6. For information, contact Robert C. Byrus, Director, Fire Service Extension, College of Engineering, University of Maryland, College Park, Md.

Michigan Fire Inspectors Conference—Sept. 24-27, Kellogg Center, Michigan State University, Lansing, Mich. For further information, contact Phillip K. Alber, Secretary-Treasurer, Michigan Fire Inspectors Society, 732 West Genesee Street, Lansing, Mich.

Michigan State Fire College—June 25-28, University of Michigan, Ann Arbor. Director, Francis Hartman, Supervisor, Firemanship Training, 4524 Administration Building, Ann Arbor, Mich.

Minnesota Valley Fire School—July 13, Le Center, Minn. For information, contact Fred A. Pischel, Le Center Fire and Safety Company, Le Center, Minn.

Mississippi State Fire School — June 24-28, Mississippi State College, Starksville. Director, J. I. Fetters, Administrative Assistant, University of Missouri, Room 101 Building T-11, Columbia, Mo.

Missouri Fire Conference—July 26-28, University of Missouri, Columbia. Director, J. I. Fetters, Administrative Assistant, University of Missouri, Room 101, Building T-11, Columbia, Mo.

Montana State Firemen's School—Aug. 21-24, Polson. Director, Chief Clayten Brown, Fire Headquarters, Polson, Mont.

Morris County Fire School—July 2, Rockaway Boro Fire Department Headquarters, Rockaway, N. J.; Aug. 6, Brookside Fire Headquarters, Mendham Township, N. J.; Sept. 3, Cedar Knolls Fire Headquarters, Cedar Knolls, N. J. For information, contact Robert H. Wright, Publicity Chairman, Long Hill Lane, Chatham, N. J.

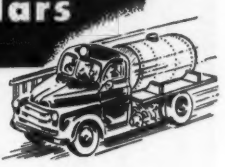
New Jersey State Fire College. Fall outdoor training sessions—Sept. 12-15 (tentative), Sea Girt. Director, Deputy Chief (ret.) John P. Weeks, 804 Quackenbush Boulevard, Sea Girt, N. J.

New Mexico Fire Marshals Fire Protection Conference—Aug. 21-23, Roswell; Aug. 25-27, Las Vegas. Director, John B. Woodall, Deputy Fire Marshall, P. O. Box 811, Santa Fe, N. M.

Ohio Short Course for Arson Investigators—Sept. 16-20, Ohio State University, Columbus, Ohio; For further information, write Willis S. Peterson, General Chairman, Room 613, Wyandotte Building, 21 West Broad Street, Columbus 15, Ohio.

Ohio State Fire School—Sept. 9-13, Ohio State University Campus, Columbus, Ohio. Director, Dr. Harvey Walker, Department of Politi-

Build your own fire truck for a few hundred dollars

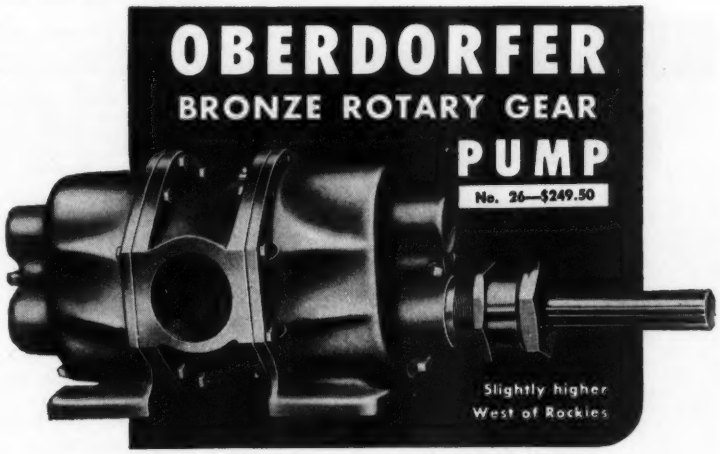


The time has come when rural fire protection should leave the "Fancy Dan" class so that every small community can do a real down-to-earth job of extinguishing fires rapidly, simply and inexpensively.

The nickel plate, red paint, gadgets and polish are good if you can afford them. But all you need for sound, economical fire protection is an Oberdorfer All Bronze Pump hooked up to the transmission of a dependable truck that carries a tank of water loaded with a good wetting agent.

Effective fire control starts just as soon as this outfit can reach its destination and a man can grab the nozzle end of the booster hose and get to the fire. The resulting penetrating stream of over 120 lbs. pressure is the fastest and most important phase of fire fighting.

Do you have a garage, a truck and a mechanic with a little common sense? We have the pump you need. Write for details.



PERFORMANCE DATA—No. 26 PUMP SHOWN ABOVE

Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
1600	120	500'—1½"	20'	150

For complete specifications of this and other Oberdorfer All Bronze Booster Pumps, and name of your nearest distributor, write:

FIRE PUMP DIVISION OBERDORFER FOUNDRIES, INC., Syracuse, N.Y.

always first !

LEADING BRANDS, LARGEST Stock, LOWEST Price

SEND FOR OUR COMPLETE CATALOG M-200

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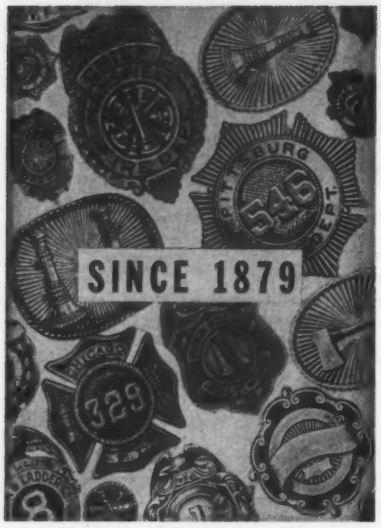

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Since 1879

Firemen the world over rely on Braxmar for the finest badges money can buy. We offer the widest possible selection in nickel, chrome plate, sterling silver, gold plate, rolled gold and solid gold; all of our badges and insignia are the work of experts with a lifetime of service.

Write for latest catalog and price list.

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New York 17, New York

cal Science, Ohio State University, Columbus. Co-Director, Wayne C. Jenkins, Chief of Fire Prevention, State Fire Marshal's Office, Wyandotte Building, Columbus, Ohio.

Pennsylvania State Fire School—Apr. 29-Oct. 4, three seven-week cycles of fire fighter training. Annual Fire School and Instructors' Conference—Aug. 5-10. Officership and Instructors Finishing Course—Aug. 12-16, all at Pennsylvania Fire School, Lewistown, Pa. For information, contact Art Espey, Director, Box 631, Lewistown, Pa.

Tennessee State Fire Service School—Aug. 19-23, Middle Tennessee State College, Murfreesboro. Director, Homer S. Elkins, Firemanship Instructor, T & I Division, State Board for Vocational Education, 215 Chestnut Street, Chattanooga, Tenn.

Texas Firemen's State Training School—July 21-26, Texas A & M College, College Station. Director, Henry D. Smith, Chief Firemen's Training School, Engineering Extension Service, A & M College, College Station, Tex.

Virginia Firemen's School—June 24-28, Williamsburg. For information, contact Robert B. Smith, Assistant Marshal, Williamsburg Fire Department, Williamsburg, Va.

Virginia State Fire School—Sept. 9-13, No. 9 Station, Thole Street, Norfolk. Director, R. Lawrence Oliver, Supervisor-Instructor, Fire Service Training, P. O. Box 654, Harrisonburg, Va.

Washington Annual State Firemen's School—July 10-13, Spokane. Director, J. R. Cook, State Firemen's Association, 200 Fifteenth Avenue, Seattle 2, Wash.

West Virginia State Fire School—July 22-26, West Virginia University, Morgantown. Director, R. E. Hanna, Jr., Department of Extension of Industrial Science, School of Mines, West Virginia University, Morgantown, W. Va.

Western Pennsylvania Firemen's Training Institute—Aug. 19-23, State Teachers College, California, Pa. For information, contact James Silbaugh, Secretary, Fire School Committee, Uniontown, Pa.

Anniversary Brochure

Phoenix Hose Co. 1 of the Babylon, L. I., N. Y. Fire Department recently celebrated the 75th anniversary of its founding in May 1882. The company published a colorful brochure to commemorate the event. Included in the illustrations are photos of the original hose cart and the apparatus that replaced it over the years.

John H. Jebens

Fireman Fails in Bank Holdup

A debt-harassed Gastonia, N. C., fireman botched an amateurish holdup attempt on the Huntersville branch of the Bank of Cornelius on May 8. He was arrested within an hour after his failure.

Joseph L. Waters is said to have entered the bank wearing green coveralls and sun glasses. He is alleged to have told the teller to give him the money in the teller's booth and threatened to shoot the teller if the order was not obeyed. When the teller stalled, Waters ran out the door.

A clerk noticed him leaving the bank and wrote down the license number of the car in which he left the scene. Fireman Waters was arrested when he arrived at his home. He was arraigned and released on $10,000 bail.

Gastonia Fire Chief John Farris said he was "sick" at the news. The chief said that Waters, a 15-year veteran of the department, was a very good fireman.

—E. F. Short

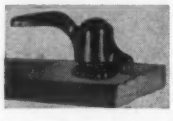
CIRCLE-D LIGHTS—

No. 150 High Intensity Flood
R-40, 200, 300 or 500 Watts.

The Choice of FIRE DEPARTMENTS BECAUSE—

THEY'RE COMPACT IN SIZE—EASY TO CARRY — ONLY 6 lbs. WEATHERPROOF — SEALED BEAM FLOOD OR SPOT—WIDE BASE WON'T TIP — CAST ALUMINUM CONSTRUCTION — CORD WON'T PULL OUT—SEALED AGAINST MOISTURE — BULB CUSHIONED AGAINST SHOCK—RESISTS ABUSE—SURE-LOCK ELEVATION ADJUSTMENT — CIRCLE-D WEATHERPROOF LAMP.

CIRCLE-D-Quick Release Hold Down Clamps—



For mounting Portable Lights on vehicles etc., Quick Release Hold Down Clamps, hold firm, yet permit quick release when needed. Solid bronze chome plated.

CIRCLE-D OUTLET BOXES.

3 outlet box

4 outlet box with pilot light.

Boxes provide 3 or 4 20A outlets from single feed line. Twist lock connections, completely weatherproof.

write for complete data . . .

NATALE MACHINE & TOOL CO.

339 Highway 17 **Carlstadt, N. J.**

Obituaries

Charles S. Cole

Charles S. Cole, retired president of the Fabric Fire Hose Co., Sandy Hook, Conn., died May 19 a few days after suffering a cerebral hemorrhage. Up to that time he had been in fairly good health.

Mr. Cole, 71, became general manager of the Fabric Company in 1933 and was advanced to the presidency in 1941 upon the retirement of his late father. He held that post until 1953 when he retired and was succeeded by his son, William Cole, who has since headed the organization.

With an educational background that included the Polytechnic Institute of Brooklyn, N. Y., and Stevens Institute of Technology of Hoboken, N. J., Mr. Cole invented several looms and other equipment used by his company. A resident of Newtown, Conn. for more than fifty years, he was active in numerous fraternal and civic organizations.

Less than a month before his death, Mr. Cole and his wife celebrated their golden wedding anniversary.

Surviving, besides his wife and son William are his mother, two daughters and three grandchildren.

Asst. Chief Emil C. Dammon

Emil C. Dammon, retired assistant chief of the Ann Arbor, Mich., Fire Department died on May 8 of a heart attack. Chief Dammon joined the department in 1915 and advanced through the ranks to assistant chief in 1945. He retired on May 1, 1949.

"Joe" Hallett Dead

Joseph L. Hallett, 52, former fire chief of Norwell, Mass., died May 9 at South Shore Hospital. He was a member of the New England Fire Chiefs Association and the Fire Chiefs Club of Plymouth County.

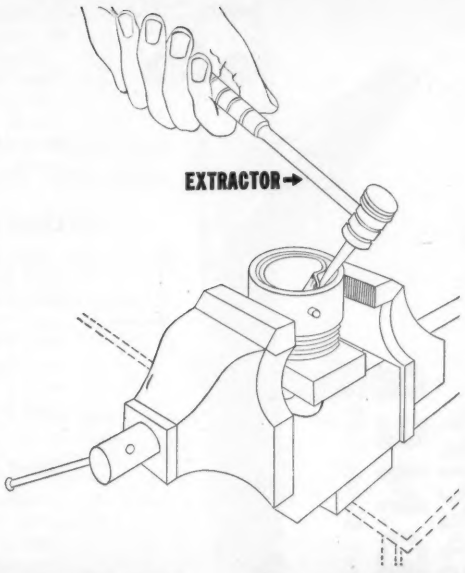
Chief Hallett was known throughout the country as editor and publisher of the "Visiting Fireman," an annual magazine devoted to news of fire fighter hobbyists and fire buffs.

Chief Andrew Klomparens

Andrew Klomparens, 67, chief of the Holland, Mich., Fire Department died unexpectedly on April 27. He was on a fishing trip with friends when he complained of a headache. Death resulted in a few moments from a cerebral hemorrhage.

Chief Klomparens started as a volunteer with the fire department at the age of 18. During his 49 years of service, he adanced through the ranks of the volunteer department until his appointment in 1945 as part-time chief. In 1956 he became the city's first full-time fire chief. He initiated regular home and business

HERE is unquestionably the simplest, safest, fastest and one of the most wanted tools ever devised for fire departments. In seconds, you can remove rings from ¾" to 6" O.D. Made of special tool steel, tempered for long use. Simply insert point of tool between hose and coupling. Tap a few times with hammer. When point is half way down, start lifting handle, while striking a few more times. When point is down to base of tool head, lift up and ring will pop out! You've got to try it to see how really simple and effective it is!



EXPANSION RING EXTRACTOR

unbelievably **SIMPLE**

unbelievably **FAST**

and priced at only **$9.75**

FIRE DEPARTMENTS TELL US THIS IS THE ONE TOOL THEY'VE BEEN LOOKING FOR.

DEALERS SAY IT'S THE FASTEST MOVING ITEM THEY'VE EVER HANDLED.

BELL & PIHL COMPANY
11 Railroad Ave., Arlington 74, Mass.
Makers of Hydraulic Expanders
Modern Tools for the Fire Service

Firefly License Plate Signs

Five distinctive designs "Scotch Lited"

Made on heavy aluminum plate. They are durable, readable, will outwear your car, and will stay reflective. Made for all officers and a host of other standard bases.

See your dealer or write to

PACIFIC REFLEX SIGNS BOX 323, McMINNVILLE, OREGON

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Insist on the best. SPECIFY
BOMGARDNER
Stretcher Equipment Leaders Since 1898

All types of cots and stretchers available for station wagon use. Write today for information or see your dealer.

THE BOMGARDNER MFG. CO.
P. O. 567, Edgewater Branch
Cleveland 6, Ohio

Mid-Century Ambulance Cot

fire inspections and took great pride in the low loss record of the community.

Chief Klomparens was a member of the West Michigan Fire Chiefs Association and the International Association of Fire Chiefs. Assistant Chief Dick Brandt has been named acting chief to fill the vacancy.

Chief Albert Schneider

Fire Chief Albert Schneider, 68, of the West New York, N. J., Fire Department died of a heart attack in his office on Friday, May 24. Chief Schneider was the town's first paid fireman when the volunteer department was replaced in 1914 with a paid force. He was named fire chief in 1950.

Chief Michael A. Coyle

Michael A. Coyle, 65, chief fire inspector of Fort Totten, N. Y., died May 21, 1957 at his home in Bayside, New York City. Chief Coyle was at one time a captain in the New York Fire Patrol and served as chief of the Fort Totten Fire Department until it was disbanded in 1950, at which time he became chief inspector. □□

New Film Wins Award

The National Board of Fire Underwriters' new instructional film on fire prevention in industry, "The First Five Minutes," has won top honors in the recent Golden Reel Festival of the American Film Assembly. The film was also recently awarded a certificate of merit by the Committee on Films for Safety, National Safety Council.

The film emphasizes the importance of industrial fire brigades and the immediate reporting of alarms to municipal fire forces. It features Chief Henry G. Thomas of the Hartford Fire Department, past president of the International Association of Fire Chiefs and recently re-elected first vice president of the National Fire Protection Association.

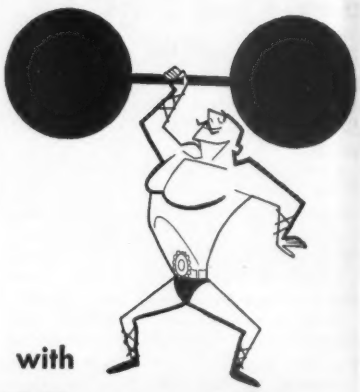
The 16mm black and white film is available free of charge from the National Board of Fire Underwriters Film Library, Bureau of Communication Research Inc., 13 East 37th Street, New York 16, N. Y.; West of the Rockies write to National Board of Fire Underwriters, 465 California Street, San Francisco 4, Calif.

Plans for Safe 4th of July

The Freeport, N. Y., Fire Department is planning to hold one of the largest firemanic and fireworks shows ever to be presented in the area. The event will be held on July 4 at the Municipal Stadium.

A parade headed by Chief Donald Mittauer and the 65-piece fire department band will open the festivities at 8 p.m. Following this will be contests and firemanic drills and the evening will be climaxed by a colorful fireworks display. Information can be obtained from Ex-Chief John S. Marra, chairman, 123 Washburn Avenue, Freeport, N. Y.

Easy Does It!



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SALVAGE
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. . . and only Hoosier Nylon Salvage Covers—made of TUFF-TARP Nylon have these Exclusive Features:

- All seams double lock stitched for extra strength
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- Triangular patch reinforcements in each corner
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Hoosier TUFF-TARP Nylon covers are your surest protection against water, smoke and chemical damage . . . and they are lighter in weight, much stronger and give you more for your money.

Write for FREE Catalog 57-F1 of Nylon and Canvas Salvage Covers.

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TARPAULIN & CANVAS GOODS CO., INC.
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What's Burning?

THE FOLLOWING LIST includes fires of $10,000 and over in the United States and Canada for the period from April 22nd to May 22nd.

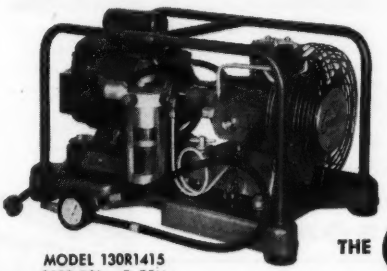
Belle Mina, Ala.—Storage barn at Tennessee Valley experimental station destroyed.
Hamilton, Ala.—Toll Gate Garment Company plant destroyed.
Mobile, Ala.—Dog River boathouse and four cruisers destroyed.
Yuma, Ariz.—Four buildings housing sign shop, washing machine appliance building, vacant store, and tavern destroyed; restaurant damaged.
Warren, Ark.—Hermitage High School gymnasium destroyed.
Alameda, Calif.—Moore Drydock Co. damaged.
Beverly Hills, Calif.—Dwelling of Fred Bell damaged.
Bijou, Calif.—El Dorado garage-apartment destroyed.
Glendora, Calif.—Glendora Lemon Association, abandoned packing plant, destroyed.
Huntington Park, Calif.—Wineman's Department Store, Vivienne's Dress Shop and Richman Brothers Clothing Store, damaged.
Lodi, Calif.—Grafnigna office building, Moose Hall, Pacific Gas and Electric Company office damaged. Faulty wiring.
Los Angeles, Calif.—Quality Products Manufacturing Company damaged.
Los Angeles, Calif.—Building housing units of Seagram's Ditiller and adjacent dwelling and garage, damaged.
San Francico, Calif.—Torino's Restaurant destroyed.
San Francisco, Calif.—Modern Furniture Manufacturing Company, Golden State Lamp Shade Company and D. N. & E. Walter Company, damaged.
Springville, Calif.—American Timber Company sawmill destroyed.
Enfield, Conn.—James W. Cahill tobacco warehouse destroyed. Incendiary.
Glastonbury, Conn.—Capitol City Lumber Company damaged.
Greenwich, Conn.—Dwelling of Mrs. Millard C. Hunstone damaged.
Milford, Conn.—Vacant main building at former Arnold College damaged.
Wilmington, Del.—Wilmington Paper Box Company plant damaged.
Washington, D. C.—E. B. Adams Company, hotel and hospital supply firm, destroyed.
Washington, D. C.—Johnson & Wimsatt Lumber Yard damaged.
Hallandale, Fla.—Black Steer Restaurant damaged. Arson.
Blackshear, Ga.—Building housing Dr. Ottis Johnson's Drug Store, R. A. Johnson Insurance Company, Golub Clothing Store and My Lady Beauty Shop, damaged.
Mullan, Idaho—Morning Mill, substation of American Smelting & Refining Company, destroyed. Explosion.
Carbondale, Ill.—Rechter Department Store and other stores nearby, damaged.
Chicago, Ill.—Buildings housing T. J. Kane offices, Belmont Paper Box Company, Acme Coil Company, Gibson Spring Company, Miller Polish Company, Speco Wire Company and Casting Engineers Tool Division, damaged.
Chicago, Ill.—Offices of Hotpoint Company damaged.
Mattoon, Ill.—Mallory & Sons, DeSoto-Plymouth agency, and adjoining school board warehouse, destroyed.
Savanna, Ill.—Savanna High School building destroyed.
Harlan, Ind.—Barn on Charles Kees farm destroyed. Faulty wiring.
Huxley, Iowa—Evangelical Palestine Lutheran Church destroyed.
Riverside, Kansas—Market containing about 35,000 items destroyed.
Hazard, Ky.—Coal tipple and four railroad cars at Kodak Coal Company, damaged.
Paducah, Ky.—W. S. Mathews & Son, tobacco warehouse and processing plant, destroyed.
Baton Rouge, La.—Esso Standard Oil Company plant damaged. Gas leak ignited furnace causing explosion.

From one chief to another . . .

CHIEF G. M. THOMPSON, RURAL FIRE DEPARTMENT, ROCHESTER, MINN. SAYS:

"We know through our own experience that the cost of owning a Cornelius compressor is small compared to the safety it provides our men."

Chief Thompson's report continues — *November 17, 1956 at a bad fire in a Rochester department store, our Cornelius compressor provided unlimited air supply for our men. We plugged the compressor into a light post socket and filled cylinders when they were empty. Without the compressor, our fresh air breathing equipment would have been out of service the last four hours of the fire." (Original letter on file.)*

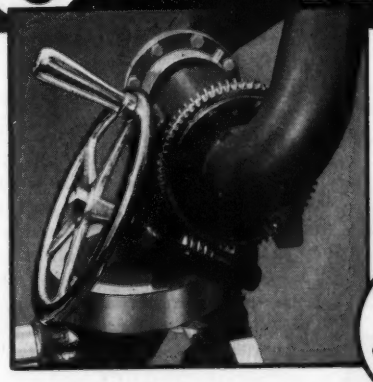


MODEL 130R1415
3000 PSI — 2 CFM
Weight complete — 95 lbs.

There is no substitute for an abundance of pure, fresh air for prompt, effective fire fighting. Write today for FREE Cornelius portable compressor catalog or call your fire equipment distributor for a demonstration. Find out why Cornelius compressors are recommended by fire chiefs everywhere.

THE Cornelius COMPANY
550 - 39th Avenue N.E. • Minneapolis 21, Minnesota

Eastman 3 way DELUGE GUN



NEW DIRECTIONAL HAND WHEEL CONTROL

SPECO INC. CONCORD, NEW HAMPSHIRE

The NEW HAND WHEEL CONTROL enables one man to operate the gun.
It will hold in any position.
EASY TO OPERATE — STURDY — SAFE
Send for complete information

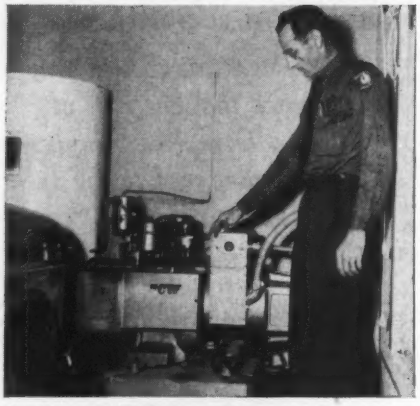
SAMUEL EASTMAN CO., INC.
CONCORD, NEW HAMPSHIRE

ELECTRIC PLANT NEWS

Police and fire departments are assured power

Onan 10KW Emergency Electric Plant protects community building

Among the many modern features of the new community building in Indian Hill, Ohio, is *insurance against power interruptions.* When disasters knock out highline power, the Onan Electric Plant starts automatically and supplies all the electricity needed for police and fire departments. Provides current for lights, radio and other electrical equipment. Allows vital municipal services to operate normally, *protecting the community.*



The Onan 10KW, Series "CW" standby plant at Indian Hill is powered by a 4-cycle, 2-cylinder, air-cooled engine. It is equipped with Vacu-Flo cooling which allows installation in a closed room or small compartment.

Check Onan quality and low prices before you buy an electric plant for any purpose.

A.C. Models: 500 to 75,000 watts. Also D.C. and Battery Charging units.

Write for folder on standby and portable models

D. W. ONAN & SONS INC.

3123 University Ave. S. E., Minneapolis 14, Minnesota

ELECTRIC PLANTS • AIR-COOLED ENGINES • GENERATORS • KAB KOOLER

"The Finest Protection Money Can Buy!"

COMPLETE SATISFACTION GUARANTEED

"The Suit That Suits" . . . . .

Here is the suit that really gives you—3 suits in 1—a tough, water-repellent cotton duck outside to take rough service—a 100% Du Pont Neoprene interlining, completely waterproof—and a comfortable, warm, dry lining, light for warm climes, heavier for cold. Worn by firemen the world over.

27R – Light weight

You can't beat a GLOBE SUIT Send for catalog

STANDARD SINCE 1901

GLOBE SUITS

GLOBE MANUFACTURING CO. PITTSFIELD, N.H.

Ironshire, Md.—Purnell Farm House destroyed.
Cambridge, Mass.—Boston & Maine Railroad freight yard No. 7 loading platform and four refrigerator cars, damaged.
Battle Creek, Mich.—Ruble's Inc. furniture store destroyed.
Detroit, Mich.—Grace Harbor Lumber Company and dwelling destroyed; other dwelling damaged.
Ironwood, Mich.—Sawmill of Ahenen Lumber Company destroyed.
Saginaw, Mich.—Hoff's Farm dairy barn, granary and milkhouse, destroyed.
Saginaw, Mich.—Concessions building at Bel Air Drive-In Theater destroyed.
Traverse City, Mich.—Storage barn of Cone Drive Gear Manufacturing Company, destroyed.
Shakopee, Minn.—Two buildings of Page & Hill prefabricated house plant destroyed.
Jackson, Miss.—Warehouses occupied by Delton Cotton Oil Company, cotton linters and jute bagging, damaged.
Lucedale, Miss.—Coffee Pot Hotel building, also housing restaurant and pool hall, destroyed.
Joplin, Mo.—Cartridge House at Atlas Powder Company plant destroyed. Explosion.
Kansas City, Mo.—Cy Young's hardware store destroyed.
Parkville, Mo.—Alumni Hall at Park College, housing classrooms and theater, destroyed.
Billings, Mont.—Rims Drive-In Restaurant destroyed. Explosion.
Eureka, Mont.—Kennedy Stevens Sawmill destroyed.
Concord, N. H.—Storage shed of New Hampshire State Hospital damaged.
Allentown, N. J.—J. B. Richardson & Son feed mill destroyed. Suspicious origin.
Atlantic City, N. J.—Standard Distributing Company warehouse containing $100,000 liquor and beer stock, damaged.
Cinnaminson Township, N. J.—Truck trailer repair garage destroyed. Explosions.
Newark, N. J.—Building housing A. & S. Aterman clothing manufacturers damaged.
Newark, N. J.—Waste paper and scrap metal warehouse damaged.
Albany, N. Y.—Two abandoned West Albany shops of New York Central Railroad destroyed.
Albion, N. Y.—Recreation center housing Village Roller Skating Rink destroyed.
Bolton Landing, N. Y.—Boat livery housing more than 50 boats, dwelling of Joseph Smith, and garage destroyed.
Catskill, N. Y.—Catskill Boys Club building and an adjacent business-apartment building destroyed.
Mexico, N. Y.—Grammar school destroyed. Possible arson.
Parish, N. Y.—Dwellings of Wyatt Herrick, Edward DeNio and combination garage-barn destroyed; other dwellings damaged.
Staatsburg, N. Y.—White Wall Manor, 30-room resort hotel, destroyed.
Fayetteville, N. C.—Eastern Guano Company plant destroyed.
Four Oaks, N. C.—Four Oaks Milling Company, flour and grain plant, destroyed. Lightning.
Newbern, N. C.—Maolo Milk & Ice Cream Company warehouse destroyed.
Woodville, N. C.—Welding machine shop damaged. Faulty electrical equipment.
Bedford, Ohio—Bedford Savings & Loan Company, shops and offices, damaged.
Cincinnati, Ohio—Mount Auburn Methodist Church damaged.
Leipsic, Ohio—Hub Markey and warehouse section destroyed.
West Mansfield, Ohio—C. H. Goff & Sons lumber yard damaged.
Corvalis, Oregon—Williamette Lumber Company mill destroyed.
Hermiston, Oregon—Sterrells Furniture Store and apartments destroyed.
Jacksonville, Oregon—Jackson Creek Lumber Mill destroyed.
Langlois, Oregon—Langlois Cheese factory destroyed.
Philomath, Oregon—Cliff Gee Apartments destroyed. Defective flue.
Portland, Oregon—B. P. John furniture factory destroyed.
Sweet Home, Oregon—Clear Lumber Company destroyed.
Newport, Pa.—Feed mill and grain elevator of H. R. Wentzel Sons, damaged.
Philadelphia, Pa.—Fabric Town damaged. Burglars.

Philadelphia, Pa.—Furniture and appliance store of Frank Marziani destroyed. Explosion

Pittsburgh, Pa.—Warehouse building housing Elevator Repair & Construction Company, A. D. Headrick Elevator Company and Underwriters Salvage Company, destroyed; Pittsburgh Office & Equipment Company, across the street, damaged.

Camden, S. C.—Camden Military Academy damaged.

New Ellenton, S. C.—Vacation Wear Manufacturing Company plant destroyed.

Russellville, S. C.—Russellville Lumber Company's general mercantile store destroyed. Lightning.

Timmonsville, S. C.—J & P Food Market, Kraft's Department Store, Norris Grocery and Mack's Dime Store storeroom, destroyed.

Cookeville, Tenn. — Poultry house destroyed. Lightning.

Medina, Tenn.—Building housing Medina Banking Company and Luffman Appliance & Supply Company, damaged.

Nashville, Tenn.—Building housing Breeding Insulation Company and adjacent building of American Service Company, ice plant operators, damaged.

Powell, Tenn.—Broadacre Dairy, combination warehouse and garage, destroyed.

Fredericksburg, Va.—Planing mill at Edgar M. Young & Sons, Inc. plant destroyed.

Eliensburg, Wash.—Morgan Jr. High School damaged. Arson reported.

Enumclaw, Wash.—Gateway Feed Company and John Hansen Cabinet Company damaged. Spontaneous combustion.

Seattle, Wash.—Pike street laundry cleaning plant damaged.

Seattle, Wash.—White House Food Liner Super Market damaged.

Charlestown, W. Va.—Grain and milling plant destroyed. Can of grease exploded.

Malden, W. Va.—Historic Salt Works destroyed; adjacent J. Q. Dickinson bromide plant damaged.

Appleton, Wis.—Riverside Paper Corporation building damaged.

Neenah, Wis.—Hardwood Products Corporation, lumber warehouse and processing plant, destroyed.

Racine, Wis.—Wisconsin Screw Company factory destroyed.

Halifax, N. S.—Wholesale equipment warehouse, occupied by Industrial Suppliers Ltd., destroyed.

Ajax, Ont.—Viscose-Hercules Sales Ltd. warehouse damaged.

Lambeth, Ont.—Featherstone's Grocery Store, Pocock's Hardware Store and apartment in century-old landmark, destroyed.

Orillia, Ont. — 10,000-watt power generating unit in transmitter building of Radio Station CFOR, destroyed.

Sarnia, Ont.—About 500 tons of synthetic rubber stored on Government Dock, destroyed. Rubber manufactured by Government-owned Polymer Corporation.

Mont-Louis, Que. — 500,000 gallon oil tank owned by Gaspe Copper Mines Ltd., destroyed. Explosion.

Mutual Aid

A city service ladder apparatus has been loaned by the Los Angeles City Fire Dept. to Burbank until repairs can be made on Burbank's aerial, badly damaged recently in a collision with a freight train.

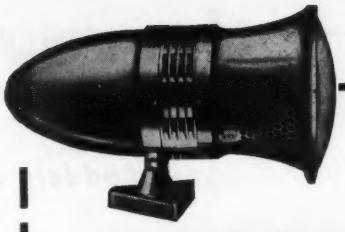
The Burbank City Council has allocated funds to repair the aerial.

Burbank Fireman Bill Davies, who was hurled 70 feet in the mishap, is recovering from head and arm injuries.

—Cliff Dektar

More Masks for New York

The Board of Estimate of the City of New York recently approved a fire department expenditure of $24,457 for 423 all-service masks equipped with speaking diaphragms.



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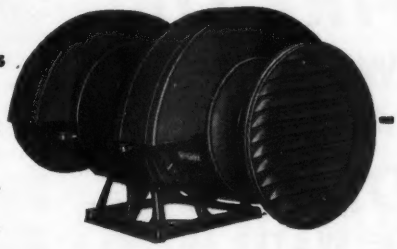

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FZ	100	70
	50	60
	300	10
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*FZZ now has NEW — • Ball-Type Discharge Valve — • Improved Priming

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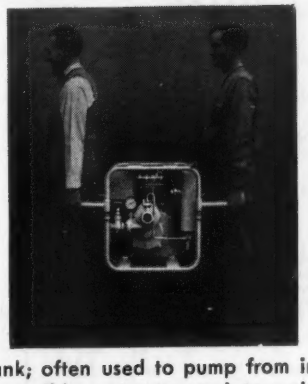

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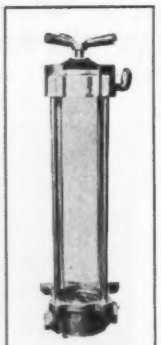

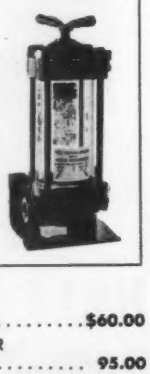

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the round table

discussion of current fire department and fire management problems

Ladders on Pumpers

WHAT, IF ANY, LADDERS should a fire department pumper carry?

For many years fire department pumpers have been equipped with a 12-foot straight hook ladder and a 24-foot wood extension ladder, for the most part mounted on the sides of the apparatus.

Opinions vary as to why these two sizes were selected, but the many veteran officers maintain that it was because a longer two-section ladder could not conveniently be carried on the side, and a three-section wood ladder was too heavy.

With the advent of the aluminum ladder in single and multiple sections, many fire departments have found it expedient to include a three-section metal ladder (the 35-foot seems to be preferred) on their pumpers. They believe this permits laddering a much broader range of buildings, thereby enhancing rescue and fire attack.

Although FIRE ENGINEERING's records indicate a large proportion of pumping engines in medium and small cities, and in towns, villages and rural areas, mount ladders of some sort, there are not a few munipical departments that have not taken to the idea for several reasons.

One group of fire chiefs maintains that regardless of precedent, improvements in apparatus and ladders make it easier and safer to carry ground ladders on pumpers. Their viewpoints do not agree with those of their fellow chiefs who do not believe in equipping pumpers with ladders.

To secure the right prospective on this subject, FIRE ENGINEERING has asked its readers to submit their customs, opinions and preferences, by participating in the following discussion.

Readers are invited to submit their remarks on the subject which will be continued in the July issue. Address replies to Round Table Editor, FIRE ENGINEERING, 18th Floor, 305 East 45th Street, New York 17, N. Y.

Discussion of the Subject

Michael H. Lotz, Chief, Baltimore, Md.: All pumpers carry side ladders. Pumpers purchased prior to 1951 which are quartered with ladder companies, carry one 24-foot extension ladder and one 14-foot roof ladder with folding hooks. Both ladders are wood.

Pumpers purchased prior to 1951 which are quartered in single houses are equipped with one 35-foot (3-piece) aluminum extension ladder and one 14-foot roof ladder. We contemplate the eventual replacement of wood ladders. All of the newer pumpers purchased since 1951 are equipped with aluminum ladders as follows: One 35-foot, 3-piece extension; one 14-foot roof ladder and one 10-foot folding ladder.

We feel that ladders on pumpers are a necessity. Very often the pumper, or pumpers, arrive on the scene of a fire before the ladder company and in many instances, these ladders have been used to effect rescues or to gain entrance to upper floors for fire operations.

The advantages of aluminum ladders over wood is their lightness. They are more easily handled, and we find we can carry and handle a 35-foot aluminum ladder in place of the 24-foot wood ladder with little or no increase in weight with the added advantage of greater reach.

Harold H. Dean, Chief, Phoenix, Ariz.: All our engine companies carry a 14-foot bangor ladder and a 14-foot roof ladder, both of which are wooden ladders. In addition to these ladders, eight of the engine companies carry a 35-foot aluminum ladder; five carry a 24-foot wooden ladder; the rescue squad carries a 14-foot bangor ladder.

Carrying side ladders on engine companies eliminates the necessity of dispatching truck companies into residential areas and drawing them away from the areas of high life hazard.

John W. Gallagher, Chief, Huntington, W. Va.: Each pumper carries one 24-foot extension ladder, one 12-foot pole folding-type ladder and a 6-foot step ladder. Some are of wood while others are metal.

We firmly believe that by carrying ladders on pumpers we can speed up the demands for rescue work on a common

THIS MONTH'S QUESTIONS

Do you carry side ladders on your pumpers?

If you do, what type (wood or metal) and what sizes?

What advantages do you find in so equipping your pumpers?

If you do not carry any ladders on pumpers, what are your reasons for not doing so?

dwelling house fire. Hose lines can be advanced to upper floors to aid in controlling the fire at point of origin.

We believe that ladders are almost as important at the scene of a fire as a load of hose, as all fires do not originate in the basement or on the first floor of a building.

Some pumper companies respond to fires in sections where no ladder trucks are assigned on first alarms. Aerial or ladder trucks do not respond to all sections or districts of our city.

Holland S. Knight, Chief, St. John, N. B.: We carry side ladders on all pumpers. These are 24-foot and 28-foot ladders. They are metal on all new pumpers.

We carry ladders on all fire equipment including the salvage corps truck, which carries a 10-foot folding ladder.

Many times a pumper company is left at a fire cleaning up and requires a ladder.

J. G. Faulkner, Assistant Chief, Vancouver, B. C.: Only three of our 17 pumpers carry side ladders. These are 14-foot wood inside extension ladders. These pumpers are in outlying districts where they would be answering alarms for chimney fires.

We feel that ladders on pumpers are in the way.

Chester W. Miller, Chief, Berkeley, Calif.: The Berkeley Fire Department carries side ladders on all pumpers. These ladders are two sizes, namely, 12-foot roof and 30-foot extension ladders. The extension ladders are evenly divided between metal and wood. However, all new ladders for pumpers are of the metal type. The same holds true for roof ladders.

By equipping pumpers with ladders, they become self-sufficient insofar as ladder requirements for small building fires and emergency use are concerned, thus releasing ladder companies for more important duties.

Willard Compton, Chief, Springfield, Ohio: We carry 24-foot extension ladders on older pumpers and 26-foot extension on the newer pumpers. Fourteen-foot roof ladders are carried on all pumpers.

Older pumpers carry 24-foot wood ladders, and the newer pumpers, 26-foot aluminum extension ladders with 14-foot hooks of wood and aluminum.

Article 511 of the July 1954 "Suggested Specifications of the National Board of Fire Underwriters," requires 24-foot extension and 16-foot hooks on all pumpers. The value of the extension ladders up until this time has been practically nil, although the hook ladders were used occasionally when it was expedient to grab one from a pumper which happened to be close by. Now we find ourselves in a position to use them more often due to the fact we have eliminated ladder company response in some of our newly developed areas which consist entirely of one-story, ranch-type houses. If smoke ejector, light plants, etc., are required, a ladder is dispatched by radio via the first-due company which describes the type and severity of the fire as

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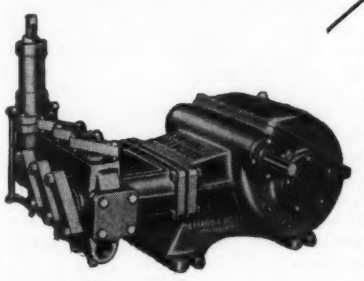

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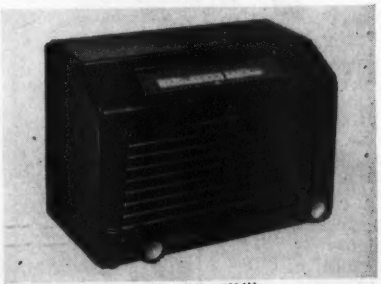

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they approach the scene. Of course, this is done by code numbers rather than a full description. Ranch-type houses will necessitate the use of side ladders on pumpers as the various municipalities realize that a ladder response to these areas is superfluous.

Hoyt M. Ayers, Chief, Birmingham, Ala.: We carry side ladders on all pumpers. Wooden ladders are carried on the majority of our pumpers. However, as we buy new pumper equipment, we specify metal ladders and will probably replace all wooden ladders with metal as quickly as we can. The pumpers carry one 28-foot extension ladder, one 14-foot extension or scuttlehole ladder and one 14-foot roof ladder.

As to the advantage of carrying ladders on our pumpers, first may I say that we do not have a ladder truck responding on every call. Also, the pumper companies, even though accompanied by ladder companies, usually can maneuver closer to the scene of some of our fires, and of course, the ladders on them would be more readily accessible. Then, I suppose that we like many other cities, do not have a sufficient number of ladder companies to dispatch on all our calls. We find that on most occasions, even when a ladder company is dispatched with the pumper, that the pumper is nearly always first in. Therefore, the side ladders are available more quickly in the event it is necessary to perform rescue work.

Michael R. Warner, Chief, Inglewood, Cal.: We carry metal side ladders on all our pumpers. These are of the following sizes: One 10-foot folding attic ladder, one 12-foot roof ladder and one 24-foot extension ladder.

Side-mounted ladders leave the area at the rear of the apparatus free to carry on hose laying operations without interference. Secondly, by carrying these ladders on pumpers, outlying companies can work effectively on fires involving roofs of single-story buildings or on second floors without waiting for the arrival of a truck company responds to all fires in our city. much lighter and can be handled by one man more readily than the wooden type. Also, there is much less maintenance required to keep the metal ladders in a safe, serviceable condition.

George J. Schultz, Chief, Hamtramck, Mich.: All but one of our pumpers are equipped with 24-foot extension and 14-foot roof wooden side ladders.

These ladders are seldom used. In fact, they have been used weekly for window cleaning and pole polishing to keep the men in practice as to how to take them off the apparatus and put them back on properly. In very rare cases, when ladders are working at a large fire, they are used on barn fires. A ladder company responds to all fires in our city.

One of our trucks, a 1250-gpm American LaFrance, was delivered in 1939 without ladders and they have never been missed. If one truck out of every three pumpers is equipped with ladders, I feel that we can cope with any ladder prob-

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lem. When a box is pulled, even with ladder trucks working elsewhere, one pumper responding will have ladders.

Otto Stoegbauer, Chief, Oshkosh, Wis.: Our pumpers carry both wood and metal side ladders in 20 and 24-foot sizes.

Our department in many instances is called upon to do other work besides fire fighting. We use our pumper ladders for lock-in or lock-out work. Children lock themselves in second story bathrooms, and we do the work via ladder, if necessary. Chimney fires are treated as "still" alarms and here, too, only one company is tied up because pumper ladders are available. Generally speaking, these ladders are most important on residential fires. What happens to a fire department responding to a fire if the ladder truck doesn't get there due to an accident, failure to start, mistaken address, etc.? Pretty nice to still have all pumpers equipped with roof ladders! It would be a sad situation to try to effect rescue work if the ladder trucks failed to arrive. We find our ladders are being constantly used, and therefore we like the arrangement.

E. E. Moody, Chief, Albany, Ga.: We carry metal 30-foot and 32-foot side ladders on our pumpers.

The National Board of Fire Underwriters in 1955 gave us favorable credit for carrying side ladders on pumpers, as we do not run the 65-foot aerial truck in all residential and some mercantile districts.

In our opinion, this practice is a "must." We really would be lost without these ladders.

Jake Mahan, Chief, Camden, Ark.: Our pumpers are equipped with 12-foot to 20-foot ladders. These are of both wood and metal. We do not have any aerial ladders in this department. With our pumpers so equipped, we have a ladder at every fire.

H. C. Pate, Chief, Honolulu, T. H.: All our pumpers carry ladders. These are 24-foot extension and 12- or 14-foot roof ladders. They are of wood.

Since they work alone, some one-piece companies also carry a metal ladder top-mounted (35-foot extension).

The following reply is answer to a previous discussion on issuing summonses.

E. Don Coolidge, Fire Marshal, Shelby Volunteer Fire Department, Shelby, Mont.: The officers of our department have the power to issue tickets to violators of ordinances pertaining to the fire department. This includes both traffic and interference. The officer issuing the ticket retains a stub which is turned in to the local magistrate's office. The officer must then appear in court the following morning as a witness against the violator.

We are fortunate in having the close cooperation of the police department, of which at least one member reports to all fire calls. As a general rule, a violator is turned over to the police and they handle the matter from there.

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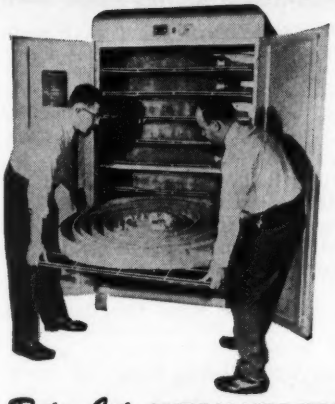

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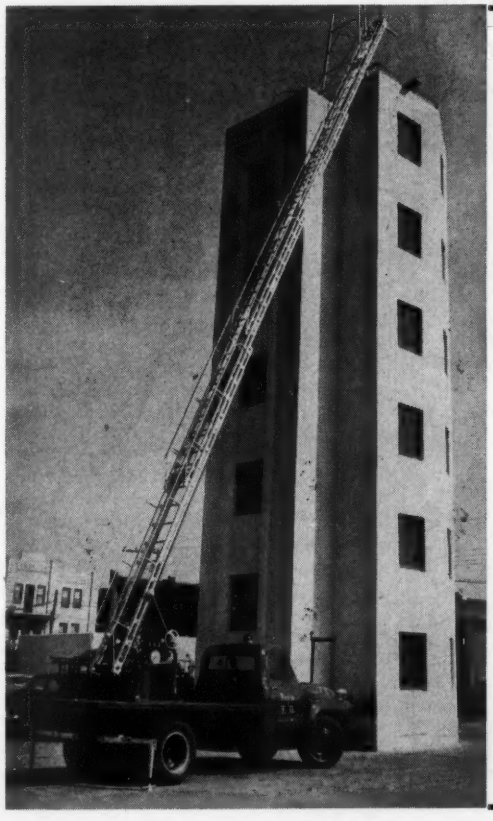

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Fig. 164AN
4½" swivel female x two 2½" male Gated Siamese. Quick opening, ¼ turn valves.

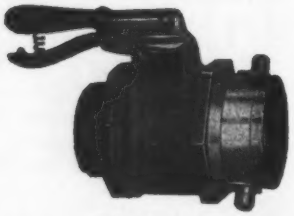

Fig. 163
Made either Right Hand or Left Hand 2½" male x female, gate valve.

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Broadcasting Alarms Helps Westminster Fire Department

The Westminster, Md., Fire Department claims that broadcasting alarms of fire in their district has worked in their favor rather than to their detriment. When a fire alarm is received at fire headquarters it is transmitted in the usual manner to activate the volunteers.

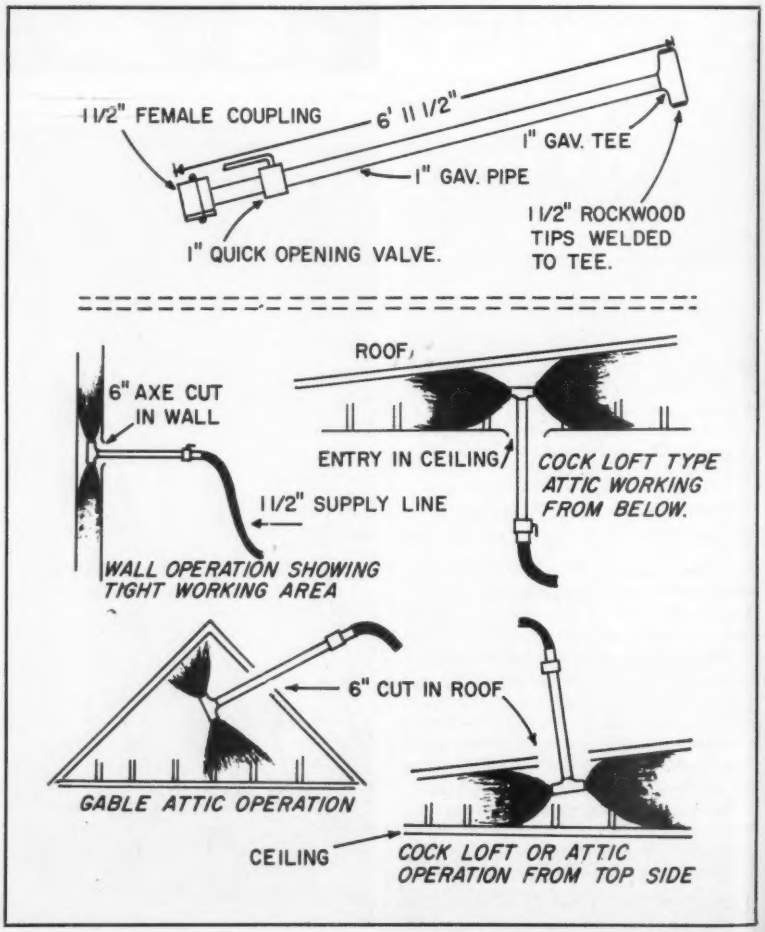
The operator then reports the fire to Radio Station WTTR. The station announcer immediately interrupts the program in progress to report that the fire department is responding to an alarm at a particular location. In his broadcast fire message he urges listeners *not to chase after the apparatus but instead to check carefully fire hazards in their homes.*

The firemen indicate that they have noticed a distinct decrease in the number of people chasing after the fire apparatus. Apparently the announcement satisfies a natural curiosity. In addition, local firemen keep their radio sets turned to the broadcast station to get fire calls as they are put on the air. As a result, attendance of fire department members at fires has increased.—*Maryland Fire Service Bulletin*

Evansville Ceiling Pipe

Assistant Chief Thomas Gilkey of the Evansville, Ind., Fire Department, has designed the ceiling pipe described here as a piece of equipment for combating hidden fires. The requirements of keeping water damage at a minimum and walls and ceiling openings as small as possible influenced the final result.

According to Evansville Fire Chief Clarence J. Bassemier, the device has been used many times in residences and small business shops to combat fires in cock lofts, small attics, wall spaces and other hidden areas. It has proved to be better than expected for these situations. The length of the pipe allows it to be easily maneuvered in a room with an 8-foot ceiling.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World-Wide Fire News

From the World News Ticker

New York City had a civil defense drill the night of March 26 that didn't go so well. Sort of "wet smack," it was. Seems, wrong-way fire hose drenched the C. D. dignitaries with a stiff and cold stream. While spectators roared with laughter, officials scampered (or swam) to escape the deluge. . . . Report is, President Eisenhower may use helicopters for evacuation in time of emergency. . . . A workman's blowtorch started a fire which damaged the wooden siding of Abraham Lincoln's home in Springfield, Ill., March 29. Deputy Fire Chief Jack Maher estimater damage at $500. . . . A father, mother and their four children died March 27 in a fire that destroyed an old two-story tenement in a slum clearance district of Montreal. . . . Fire on April 1, wiped out Catbalogan, capital town of Sumar Island, Philippines. . . . An Air Force B-52 jet bomber exploded over Skiatook, Okla., March 29, killing two crewmen. Wreckage of the $8 million plane was strewn over wide area, just missing main section of town. Two members of crew parachuted to safety. . . . In another air disaster, a Navy Neptune bomber blew up soon after takeoff on April 2, killing all 11 occupants.

Eighteen Die In Egypt

Eighteen persons burned to death on April 27 in a fire which destroyed 325 mud and straw houses in Al Ahraz, a village eight miles north of Cairo. About 1,000 persons were made homeless.

The blaze was set off by sparks from a hearth fire on which a woman was baking cakes for Bairam, a Moslem religious feast which marks the end of the month long Moslem fasting period.

Hot Fire At Polar Base

A fire that raged for four and a half hours on April 29 caused more than $100,000 damage at the United States Base in Antarctica. The blaze destroyed a garage, a 35-ton tractor-trailer and some electrical equipment.

Rear Admiral George J. Dufek, commander of the United States Polar operation said the blaze at the naval air facility, at McMurdo Sound, largest of the seven South Pole bases, would slow down operations but not prevent the expedition from getting their job done.

Dog Blamed for Dynamite Debacle

A cache of dynamite, illegally stored in a private warehouse in Mexico City, blew up with fatal results in two shattering explosions on March 27.

The warehouse—some reports termed it a fireworks factory—and a block of 30 houses near International Airport were

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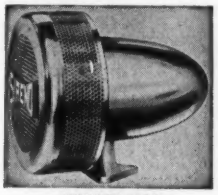

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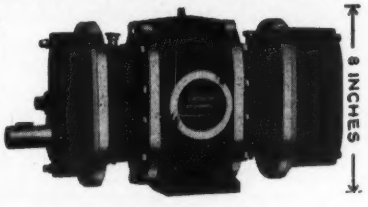

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leveled by the two blasts which killed at least 12 and injured 110 persons.

The first explosion was attributed to a dog. The son of the owner of the factory and dynamite warehouse told police he believed a dog overturned a box of explosives and touched off the blast, setting a fire.

Firemen and crowds of spectators responded, the latter crowding close to watch rescue operations after the initial detonation, when a second explosion occurred. This caused even greater damage and killed at least seven fire fighters as well as some spectators.

Initial reports were that 20 tons of mixed NT dynamite and percussion caps were involved. A quarter-mile area was variously damaged by concussion and flying debris.

Orchids to Sanitation Rescuers

Posies to quick-thinking Toronto, Ont., garbage department employees for their part in the rescue of a Queen Street West family on February 26, when a man and his wife and two children were trapped by fire.

The city employees backed up their sanitation truck through a vacant lot to range it beside the burning dwelling. Mr. and Mrs. J. Sallajka dropped their children, Jedy and Jedna, to the sanitation men who stood atop their truck to catch them.

The three workers, Cecil Blakeman, Donald Wilcox and Ross Hyndman were "working" Queen Street about 5:00 a.m. when they heard screams from the rear of a nearby building. When they saw the building was afire and realized persons were trapped on the upper floor, two of the men shouted to the family to stay on the roof while the third hustled for the truck.

Navy helicopter fire engine

The U. S. Navy has disclosed that it is experimenting with helicopters as flying fire engines. The technique was demonstrated recently at the annual Navy air weapons meet near El Centro, Cal.

A helicopter, fitted with 50 pounds of dry powder and a 12-foot discharge boom, hovered just above the ground near a test aircraft fire. Within seconds after operations began, the flames were so diminished that fire fighters could approach the cockpit for a simulated rescue.

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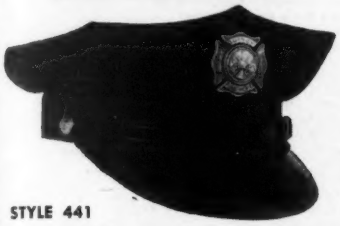

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Turk's Timber Loss $50 Million

The worst forest fire to strike Turkey in 15 years was finally controlled April 18 by volunteer fire fighters and 1200 soldiers.

The fire, in the area between Kastamonu and Tashkopru, near the Black Sea coast, 150 miles north of Ankara, caused two deaths and destroyed 115 homes and about 50,000 acres of the country's best pine forests.

Initial estimates of the damage put the loss in timber at about $50 million.

Twelve villagers were detained by the police for questioning after it was reported fires broke out in 40 different locations on the 16th and early 17th over a 25-mile area.

The villagers, most of them woodcutters, were said to be disgruntled over a ruling made by Turkey's Parliament earlier, putting the jurisdiction of forests in the area under the National Agricultural Ministry.

Premature Blast Fatal

Dynamite, intended for use in recovering the bodies of three youths who drowned in the swollen Guyan River, at Logan, W. Va., let go prematurely, blowing one man to bits and seriously injuring a 16-year-old boy, one of several curiosity seekers who came to watch the blasting.

Searchers for the drowned boys had planned to detonate the dynamite at intervals. Lon Trogden, a veteran of 30 years work with explosives in coal mines, was the man killed. He was preparing one-stick charges, lighting the 15 to 18-inch fuses, and handing them to another man to weight and throw into the river.

Trogden was cvarrying some 8 to 10 sticks of dynamite when, for some undetermined reason the load exploded. The boy victim, Billy Williamson, badly injured, was rushed to Logan General Hospital where it was reported he had probably lost his sight.

Reports fail to relate whether or not the bodies of the three drowned boys were recovered.

Insurance Co. Burned By Exec

The district prosecutor's office of Tokyo has charged that the former president of a Japanese insurance firm amassed a fortune over a period of five years by reporting fires that never occurred and collecting the insurance payments.

Kozo Sato, 61, was charged with pocketing $277,000 during the years 1950 to 1955. He was president of the Nippon Fire and Marine Insurance Co.

Airport Radar Knocked Out

The main radar units of New York's International Airport, Idlewild, Queens, were out of operation on April 15 as the result of a small fire the night before in the field's control tower. The radar had been drenched as fire fighters fought a blaze on the tower's seventh floor. It had broken out in a temporary wooden partition near the radar room. The cause was not known.

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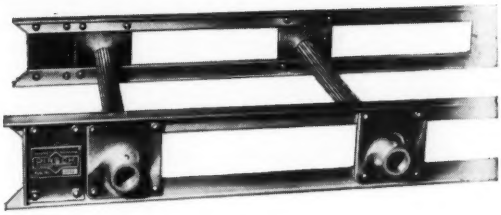
THE PIRSCH QUINTUPLE AERIAL LADDER TRUCK



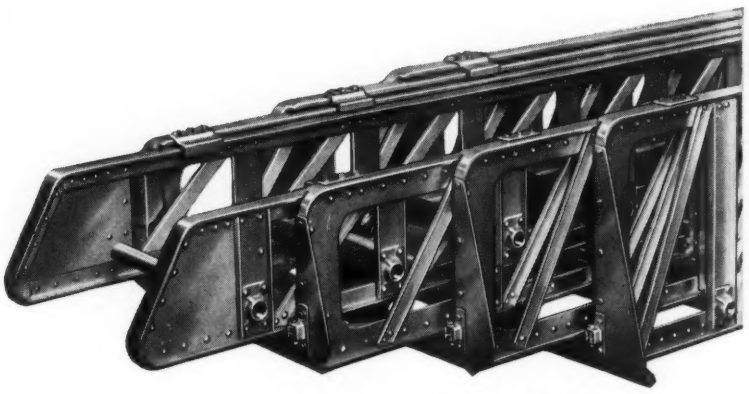
Pirsch built aluminum alloy ground ladders are light and strong. The "T" rails, rungs and channels are aluminum alloy extrusions, and the rail spacers are aluminum alloy forgings from Pirsch dies. Specify Pirsch ladders if you want the best.

Sustaining Member

Outstanding in design and performance this Pirsch ladder truck is offered with various sizes of engines, ladders and pumps. Engines from 226 to 318 horsepower, aerial ladders in 65′, 75′ and 85′ lengths and multi-stage centrifugal pumps in capacities ranging from 500 to 1500 gallons per minute are available.

Either the Pirsch Hydro-Mechanical or the Pirsch Full Hydraulic aerial hoist are optional.

Quintuple aerial ladder truck shown above has been delivered to Evergreen Park, Ill.



This "close-up" of the Pirsch aluminum alloy aerial ladder shows some features which contribute to the rugged structural strength of America's finest aerial ladder. Solid core top and bottom "T" rails, riveted construction and proper bracing are among these features.

Send for our booklet, "Factual Information About Metal Aerial Ladders" for further data.

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